Cross-walk from Current HTRW to Phase Based HTRW WBS

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
.01	.00					**PREPARATION OF PLANS**	.03	0			**PREPARATION OF PLANS**
.01	.01					**Work Plan**	.03	.01			**Work Plan**
.01	.02					**Chemical Data Acquisition Plan**	.03	.02			**Chemical Data Acquisition Plan**
.01	.03	.00				**Sampling and Analysis Plan**	.03	.03	.00		**Sampling and Analysis Plan**
.01	.03	.01				Quality Assurance Project Plan	.03	.03	.01		Quality Assurance Project Plan
.01	.03	.02				Field Sampling Plan	.03	.03	.02		Field Sampling Plan
.01	.04					**Site Health & Safety Plan**	.03	.04			**Site Health & Safety Plan**
.01	.05					**Pollution Control and Mitigation Plan**	.03	.05			**Pollution Control and Mitigation Plan**
.01	.06					**Data Management Plan**	.03	.06			**Data Management Plan**
.01	.07					**Community Relations Plan**	.03	.07			**Community Relations Plan**
.01	.08					**Transportation & Disposal Plan (Waste Mgt. Plan)**	.03	.08			**Transportation & Disposal Plan (Waste Mgt. Plan)**
.01	.09					**Site Management Plan**	.03	.09			**Site Management Plan**
.01	.10					**Risk Assessment Plan**	.03	.10			**Risk Assessment Plan**
.01	.11	.00				**Develop Technical Project Goals & Objectives**	.03	.11	.00		**Technical Project Goals & Objectives**
.01	.11	.01				Develop Conceptual Site Model	.03	.11	.01		Develop Conceptual Site Model
.01	.11	.02				ID of Data Needs & DQOs	.03	.11	.02		ID of Data Needs & DQOs
.01	.11	.03				ID of Prelim. RA Objectives & Potential Alternatives	.03	.11	.03		ID of Prelim. RA Objectives & Potential Alternatives
.01	.11	.04				ID of Treatability Studies	.03	.11	.04		ID of Treatability Studies
.01	.11	.05				Preliminary ID of ARARs of STDs	.03	.11	.05		Preliminary ID of ARARs of STDs
.01	.11	.06				ID of NEPA Requirements	.03	.11	.06		ID of NEPA Requirements
.01	.11	.07				ID of Other Regulatory Requirements	.03	.11	.07		ID of Other Regulatory Requirements
.01	.12	.00				**Develop Emergency Response Plans / Report / Approval**	.03	.13	.00		**Emergency Response Plans / Report / Approval**
.01	.12	.01				Engineering Evaluation & Cost Analyses	.03	.13	.01		Engineering Evaluation & Cost Analyses
.01	.12	.02				Action Memo Preparation	.03	.13	.02		Action Memo Preparation
.01	.12	.03				Removal Action Plans & Specs.	.03	.13	.03		Removal Action Plans & Specs.
.01	.13					**Develop Interim Remedial Plans / Reports / Approval**	.03	.14			**Interim Remedial Plans / Reports / Approval**
.02	.00					**PROJECT MANAGEMENT / SUPPORT / ADMIN**	.02	.01	.00		**Project Management / Support / Administration**
.02	.01	.00				**Conduct Project Management**	.02	.01	.01	.00	Project Management
.02	.01	.01				Develop Cost Estimate	.02	.01	.01	.01	Develop Cost Estimate
.02	.01	.02				Cost / Schedule Control System	.02	.01	.01	.02	Cost / Schedule Control System
.02	.01	.03				Value Engineering / Cost Analysis	.02	.01	.01	.03	Value Engineering / Cost Analysis
.02	.01	.04				Engineering Network Analysis	.02	.01	.01	.04	Engineering Network Analysis
.02	.01	.05				Manage, Track and Report Equipment Status	.02	.01	.01	.05	Manage, Track and Report Equipment Status
.02	.01	.06				Conduct Site Visit	.02	.01	.01	.07	Conduct Site Visit
.02	.01	.07				Attend Scoping Meeting	.02	.01	.01	.06	Attend Scoping Meeting
.02	.01	.08				Evaluate Existing Data	.02	.01	.01	.08	Evaluate Existing Data
.02	.01	.09				Prepare Reports / Participate in Reviews	.02	.01	.01	.10	Prepare Reports / Participate in Reviews
.02	.01	.10				Project Closeout	.02	.01	.01	.14	Project Closeout
.02	.02	.00				**Support Subcontracting Activities**	.02	.01	.03	.00	Support subcontracting Activities
.02	.02	.01				Procurement of Subcontractors	.02	.01	.03	.01	Procurement of Subcontractors
.02	.02	.02				Contractor QA Program	.02	.01	.03	.03	Contractor QA Program
.02	.02	.03				Coordinate with Analytical Laboratory	.02	.01	.03	.04	Coordinate with Analytical Laboratory
.02	.03	.00				**Administration / Reporting**	.02	.01	.04	.00	Administration / Reporting
.02	.03	.01				Document Cost and Performance Status	.02	.01	.04	.06	Document Cost and Performance Status
.02	.03	.02				Billings	.02	.01	.04	.07	Billings
.03	.00					**ADMINISTRATIVE RECORD**	.02	.01	.06	.00	Administration Record
.03	.01					**Attend Meetings**	.02	.01	.01	.09	Attend Public Meetings / Hearing / Meetings with PRP's
.03	.02	.00				**Compile Documents**	.02	.01	.04	.04	Compile Documents
.03	.02	.01				Prepare Draft Administrative Record Index	.02	.01	.04	.04	Compile Documents
.03	.02	.02				Prepare Administrative Record Index	.02	.01	.04	.04	Compile Documents
.03	.02	.03				Coordinate Duplication of Administrative Record	.02	.01	.04	.04	Compile Documents
.03	.03					**Assemble / Update Administrative Record and Index**	.02	.01	.04	.05	Assemble / Update Administrative Record and Index
.04	.00					**COMMUNITY RELATIONS**	.02	.02	.00		**Community Relations**
.04	.01					**Conduct Community Interviews**	.02	.02	.01		Conduct Community Interviews
.04	.02	.00				**Provide Support for Community Relations**	.02	.02	.02	.00	Provide Support for Community Relations
.04	.02	.01				Prepare Fact Sheets	.02	.02	.02	.01	Prepare Fact Sheets

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
.04	.02	.02				Participate in Public Meetings / Hearings	.02	.02	.02	.02	Participate in Public Meetings / Hearings
.04	.02	.03				Support Briefings	.02	.02	.02	.03	Support Briefings
.04	.03					**Maintain Public Information Repository**	.02	.02	.03		Maintain Public Information Repository
.05	.00					**REGULATORY INTERACTION**	.02	.03	.00		**Regulatory Interaction**
.05	.01					**Support Meetings with Regulators**	.02	.03	.01		Support Meetings with Regulators
.05	.02	.00				**Coordination of Laws & Regulations**	.02	.03	.02	.00	Coordination of Laws & Regulations
.05	.02	.01				Prepare Initial Notification	.02	.03	.02	.01	Prepare Initial Notification
.05	.03	.00				**Develop Interagency Agreement**	.02	.03	.03	.00	Develop Interagency Agreement
.05	.03	.01				Agency Review Support	.02	.03	.03	.01	Agency Review Support
.05	.03	.02				State & Local Agency Review	.02	.03	.03	.02	State & Local Agency Review
.05	.04					**Develop Regulatory Reports / Permits / Reviews**	.02	.03	.04		Regulatory Reports/Reviews
.05	.04					**Develop Regulatory Reports / Permits / Reviews**	.02	.03	.05		Regulatory Permitting (e.g., RCRA Part B Permit)
.06	.00					**FIELD INVESTIGATION**	.07	.00			**INVESTIGATIONS & MONITORING/SAMPLE COLLECTION**
.06	.01	.00				**Site Reconnaissance**	.07	.01	.00		**Site Reconnaissance**
.06	.01	.01				Ecological Resources Reconnaissance	.07	.01	.01		Ecological Resources Reconnaissance
.06	.01	.02				Well Inventory	.07	.01	.02		Well Inventory
.06	.01	.03				Residential Well Sampling	.07	.01	.03		Residential Well Sampling
.06	.01	.04				Land Survey	.07	.01	.04		Land Survey
.06	.01	.05				Topographic Mapping	.07	.01	.05		Topographic Mapping
.06	.01	.06				Field Screening	.07	.01	.06		Field Screening
.06	.02					**Perform Mobilization/Demobilization**	.05	.01	.00		**Mobilization**
.06	.03	.00				**Conduct Geological Investigations (Soils/sediments)**	.07	.11	.00		**Soil / Sediment Sampling**
.06	.03	.01				Surface Soil Sample Collection	.07	.11	.01		Surface Soil Sample Collection
.06	.03	.02				Subsurface Soil Sample Collection	.07	.11	.02		Subsurface Soil Sample Collection
.06	.03	.03				Soil Boring / Permeability Sampling	.07	.11	.03		Soil Boring / Permeability Sampling
.06	.03	.04				Sediments Sample Collection	.07	.11	.04		Sediments Sample Collection
.06	.03	.05				Soil Gas Survey	.07	.11	.05		Soil Gas Survey
.06	.03	.06				Test Pit	.07	.11	.06		Test Pit
.06	.04	.00				**Conduct Air Sampling**	.07	.08	.00		**Air Sampling**
.06	.04	.01				Sample Collection	.07	.08	.01		Sample Collection
.06	.04	.02				Air Monitoring Station	.07	.08	.02		Air Monitoring Station
.06	.05	.00				**Conduct Hydrogeological Investigations - Groundwater**	.07	.09	.00		**Groundwater Sampling / Monitoring**
.06	.05	.01				Well System Installation	.07	.09	.01	.00	Monitoring Well Systems
.06	.05	.02				Sample Collection	.07	.09	.02		Sample Collection - Groundwater
.06	.05	.03				Hydro Punch	.07	.04	.01		Hydro Punch
.06	.05	.04				Tidal Influence Study	.07	.04	.02		Tidal Influence Study
.06	.05	.05				Hydraulic Tests (Pump Test)	.07	.04	.03		Hydraulic Tests (Pump Test)
.06	.05	.06				Groundwater Elevation Measurement	.07	.04	.04		Groundwater Elevation Measurement
.06	.06	.00				**Conduct Hydrogeological Investigations - Surface Water**	.07	.05	.00		**Hydrogeological Investigations - Surface Water**
.06	.06	.00				**Conduct Hydrogeological Investigations - Surface Water**	.07	.10			**Surface Water Sampling**
.06	.06	.01				Sample Collection	.07	.10			**Surface Water Sampling**
.06	.06	.02				Tidal Influence Study	.07	.05	.01		Tidal Influence Study
.06	.06	.03				Surface Water Elevation Measurement	.07	.05	.02		Surface Water Elevation Measurement
.06	.07	.00				**Conduct Waste Investigations**	.07	.13	.00		**Waste Sampling**
.06	.07	.01				Sample Collection - (Gas, Liquid, Solid)	.07	.13	.01		Sample Collection - Gas
.06	.07	.01				Sample Collection - (Gas, Liquid, Solid)	.07	.13	.02		Sample Collection - Liquid
.06	.07	.01				Sample Collection - (Gas, Liquid, Solid)	.07	.13	.03		Sample Collection - Solid
.06	.07	.02				Derived Waste Disposal - (Gas, Liquid, Solid)	.09	.05			**Derived Waste Disposal (Gas, Liquid, Solid)**
.06	.08	.00				**Conduct Geophysical Investigations**	.07	.06	.00		**Geophysical / Geotechnical Investigation**
.06	.08	.01				Surface Geophysical Activity	.07	.06	.01		Geological Investigations (Soils / Sediments)
.06	.08	.02				Magnetometer	.07	.06	.02		Surface Geophysical Activity
.06	.08	.03				Electromagnetics	.07	.06	.03		Magnetometer
.06	.08	.04				Ground Penetration Radar	.07	.06	.04		Electromagnetics
.06	.08	.05				Seismic Refraction	.07	.06	.05		Ground Penetration Radar
.06	.08	.06				Resistivity	.07	.06	.06		Seismic Refraction
.06	.08	.07				Site Meteorology	.07	.06	.07		Resistivity

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
.06	.08	.08				Cone Penetrometer Survey	.07	.06	.08		Site Meteorology
.06	.08	.09				Remote Sensor Survey	.07	.06	.09		Cone Penetrometer Survey
.06	.08	.10				Radiological Investigations	.06	.02	.02		Routine Radiological Surveys
.06	.09	.00				**ConductEcological Investigation**	.07	.07	.00		**Ecological Investigation**
.06	.09	.01				Wetland and Habitat Delineation	.07	.07	.01		Wetland and Habitat Delineation
.06	.09	.02				Wildlife Observations	.07	.07	.02		Wildlife Observations
.06	.09	.03				Community Characterization	.07	.07	.03		Community Characterization
.06	.09	.04				Identification of Endangered Species	.07	.07	.04		Identification of Endangered Species
.06	.09	.05				Biota Sampling / Population Studies	.07	.07	.04		Identification of Endangered Species
.06	.10					**Contaminated Building / Structures Samples**	.07	.14			**Contaminated Building / Structures Samples**
.07	.00					**SITE WORK / TEMPORARY FACILITIES**	.05	.00			**SITE WORK**
.07	.01					**Perform Mobilization/Demobilization**	.05	.01	.00		**Mobilization**
.07	.02					**Clear & Grub**	.05	.03			**Clear & Grub**
.07	.03					**Perform Earthwork**	.05	.05			**Excavation/Earthwork**
.07	.04					**Build roads/Parking/Curbs/Walks**	.05	.08			**Access Roads**
.07	.04					**Build roads/Parking/Curbs/Walks**	.05	.15			**Parking Lots**
.07	.04					**Build roads/Parking/Curbs/Walks**	.05	.17			**Sidewalks**
.07	.05					**Install Fencing**	.05	.14			**Fencing**
.07	.06					**Install Electrical Distribution**	.05	.31			**Overhead Electrical Distribution**
.07	.07					**Install Telephone/Communication Distribution**	.05	.29			**Communications**
.07	.08					**Install/Water/Sewer/Gas Distribution**	.05	.20			**Gas Distribution**
.07	.08					**Install/Water/Sewer/Gas Distribution**	.05	.26			**Water Distribution**
.07	.08					**Install/Water/Sewer/Gas Distribution**	.05	.33			**Sanitary Sewer**
.07	.09					**Install Steam and Condensate Distribution**	.05	.24			**Install Steam and Condensate Distribution**
.07	.10					**Install Fuel Line Distribution**	.05	.21			**Install Fuel Line Distribution**
.07	.11					**Install Storm Drainage/Subdrainage**	.05	.28			**Storm Sewer**
.07	.12					**Provide Cover Structure over Contaminated Area**	.05	.01	.03		Setup / Construct Temporary Facilities
.07	.13					**Borrow Pit / Haul Roads**	.05	.07			**Borrow Pit / Haul Roads**
.07	.14					**Construct Temporary Decontamination Facility**	.05	.01	.03		Setup / Construct Temporary Facilities
.07	.15					**Construct Sample/Derived Waste Storage Facility**	.12	.02	.02		Waste Storage Structure/Building
.07	.16					**Construct other Temporary Facilities**	.05	.01	.03		Setup / Construct Temporary Facilities
.07	.17					**Construct Temporary/Mobile Laboratory**	.05	.01	.03		Setup / Construct Temporary Facilities
.07	.18					**Site Restoration**	.05	.02			**Cleanup / Landscaping / Revegetation**
.08	.00					**OFF-SITE LABORATORY SAMPLE ANALYSIS**	.08	.00			**SAMPLE ANALYSIS**
.08	.01	.00				**Analyze Air / Gas Sample Analysis**	.08	.01	.00		**Air / Gas Sample Analysis**
.08	.01	.01				Organic	.08	.01	.01		Organic
.08	.01	.02				Inorganic	.08	.01	.02		Inorganic
.08	.01	.03				Radiochemistry	.08	.01	.03		Radiochemistry
.08	.02	.00				**Analyze Groundwater Sample Analysis**	.08	.02	.00		**Groundwater Sample Analysis**
.08	.02	.01				Organic	.08	.02	.01		Organic
.08	.02	.02				Inorganic	.08	.02	.02		Inorganic
.08	.02	.03				Radiochemistry	.08	.02	.03		Radiochemistry
.08	.03	.00				**Analyze Surface Water Sample Analysis**	.08	.03	.00		**Surface Water Sample Analysis**
.08	.03	.01				Organic	.08	.03	.01		Organic
.08	.03	.02				Inorganic	.08	.03	.02		Inorganic
.08	.03	.03				Radiochemistry	.08	.03	.03		Radiochemistry
.08	.04	.00				**Analyze Soil / Sediment Sample Analysis**	.08	.04	.00		**Soil / Sediment Sample Analysis**
.08	.04	.01				Organic	.08	.04	.01		Organic
.08	.04	.02				Inorganic	.08	.04	.02		Inorganic
.08	.04	.03				Radiochemistry	.08	.04	.03		Radiochemistry
.08	.05	.00				**Analyze Waste (Gas) Samples**	.08	.05	.00		**Gas Waste Sample Analysis**
.08	.05	.01				Organic	.08	.05	.01		Organic
.08	.05	.02				Inorganic	.08	.05	.02		Inorganic
.08	.05	.03				Radiochemistry	.08	.05	.03		Radiochemistry
.08	.06	.00				**Analyze Waste (Liquid) Samples**	.08	.06	.00		**Liquid Waste Sample Analysis**
.08	.06	.01				Organic	.08	.06	.01		Organic

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
.08	.06	.02				Inorganic	.08	.06	.02		Inorganic
.08	.06	.03				Radiochemistry	.08	.06	.03		Radiochemistry
.08	.07	.00				**Analyze Waste (Solid) Samples**	.08	.07	.00		**Solid Waste Sample Analysis**
.08	.07	.01				Organic	.08	.07	.01		Organic
.08	.07	.02				Inorganic	.08	.07	.02		Inorganic
.08	.07	.03				Radiochemistry	.08	.07	.03		Radiochemistry
.08	.08	.00				**Analyze Biota Samples**	.08	.08	.00		**Biota Sample Analysis**
.08	.08	.01				Organic	.08	.08	.01		Organic
.08	.08	.02				Inorganic	.08	.08	.02		Inorganic
.08	.08	.03				Radiochemistry	.08	.08	.03		Radiochemistry
.08	.09					**Analyze Bioassay Sample Analysis**	.08	.09			**Bioassay Sample Analysis**
.08	.10					**Perform Bioaccumulation Studies**	.08	.10			**Bioaccumulation Studies**
.09	.00					**ON-SITE LABORATORY SAMPLE ANALYSIS**	.08	.00			**SAMPLE ANALYSIS**
.09	.01	.00				**Analyze Air / Gas Sample Analysis**	.08	.01	.00		**Air / Gas Sample Analysis**
.09	.01	.01				Organic	.08	.01	.01		Organic
.09	.01	.02				Inorganic	.08	.01	.02		Inorganic
.09	.01	.03				Radiochemistry	.08	.01	.03		Radiochemistry
.09	.02	.00				**Analyze Groundwater Sample Analysis**	.08	.02	.00		**Groundwater Sample Analysis**
.09	.02	.01				Organic	.08	.02	.01		Organic
.09	.02	.02				Inorganic	.08	.02	.02		Inorganic
.09	.02	.03				Radiochemistry	.08	.02	.03		Radiochemistry
.09	.03	.00				**Analyze Surface Water Sample Analysis**	.08	.03	.00		**Surface Water Sample Analysis**
.09	.03	.01				Organic	.08	.03	.01		Organic
.09	.03	.02				Inorganic	.08	.03	.02		Inorganic
.09	.03	.03				Radiochemistry	.08	.03	.03		Radiochemistry
.09	.04	.00				**Analyze Soil / Sediment Sample Analysis**	.08	.04	.00		**Soil / Sediment Sample Analysis**
.09	.04	.01				Organic	.08	.04	.01		Organic
.09	.04	.02				Inorganic	.08	.04	.02		Inorganic
.09	.04	.03				Radiochemistry	.08	.04	.03		Radiochemistry
.09	.05	.00				**Analyze Waste (Gas) Samples**	.08	.05	.00		**Gas Waste Sample Analysis**
.09	.05	.01				Organic	.08	.05	.01		Organic
.09	.05	.02				Inorganic	.08	.05	.02		Inorganic
.09	.05	.03				Radiochemistry	.08	.05	.03		Radiochemistry
.09	.06	.00				**Analyze Waste (Liquid) Samples**	.08	.06	.00		**Liquid Waste Sample Analysis**
.09	.06	.01				Organic	.08	.06	.01		Organic
.09	.06	.02				Inorganic	.08	.06	.02		Inorganic
.09	.06	.03				Radiochemistry	.08	.06	.03		Radiochemistry
.09	.07	.00				**Analyze Waste (Solid) Samples**	.08	.07	.00		**Solid Waste Sample Analysis**
.09	.07	.01				Organic	.08	.07	.01		Organic
.09	.07	.02				Inorganic	.08	.07	.02		Inorganic
.09	.07	.03				Radiochemistry	.08	.07	.03		Radiochemistry
.09	.08	.00				**Analyze Biota Samples**	.08	.08	.00		**Biota Sample Analysis**
.09	.08	.01				Organic	.08	.08	.01		Organic
.09	.08	.02				Inorganic	.08	.08	.02		Inorganic
.09	.08	.03				Radiochemistry	.08	.08	.03		Radiochemistry
.09	.09					**Analyze Bioassay Sample Analysis**	.08	.09			**Bioassay Sample Analysis**
.09	.10					**Perform Bioaccumulation Studies**	.08	.10			**Bioaccumulation Studies**
.09	.11	.00				**Perform Temporary/Mobile Laboratory Analysis**					
.09	.11	.01				Air / Gas Sample Analysis	.08	.11			**Mobile - Air / Gas Sample Analysis**
.09	.11	.02				Mobile - Groundwater Sample Analysis	.08	.12			**Mobile - Groundwater Sample Analysis**
.09	.11	.03				Surface Water Sample Analysis	.08	.13			**Mobile - Surface Water Sample Analysis**
.09	.11	.04				Soil / Sediment Sample Analysis	.08	.14			**Mobile - Soil / Sediment Sample Analysis**
.09	.11	.05				Gas Waste Sample Analysis	.08	.15			**Mobile - Gas Waste Sample Analysis**
.09	.11	.06				Liquid Waste Sample Analysis	.08	.16			**Mobile - Liquid Waste Sample Analysis**
.09	.11	.07				Solid Waste Sample Analysis	.08	.17			**Mobile - Solid Waste Sample Analysis**
.09	.11	.08				Biota Sample Analysis	.08	.18			**Mobile - Biota Sample Analysis**

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
.09	.11	.09				Bioassay Sample Analysis	.08	.09			**Bioassay Sample Analysis**
.09	.11	.10				Bioaccumulation Studies	.08	.10			**Bioaccumulation Studies**
.10	.00					**ANALYTICAL SUPPORT/SAMPLE MGMT/DATA VALIDATION**	.09	.00			**SAMPLE MANAGEMENT/DATA VALIDATION/DATA EVALUATION**
.10	.01	.00				**Prepare And Ship Environmental Samples**	.09	.01	.00		**Prepare and Ship Environmental Samples**
.10	.01	.01				Groundwater Samples	.09	.01	.01		Groundwater Samples
.10	.01	.02				Surface and Subsurface Soil Samples	.09	.01	.02		Surface and Subsurface Soil Samples
.10	.01	.03				Surface Water & Sediment Samples	.09	.01	.03		Surface Water & Sediment Samples
.10	.01	.04				Air Samples	.09	.01	.04		Air Samples
.10	.01	.05				Biota Samples	.09	.01	.05		Biota Samples
.10	.02					**Coordinate With Sample Mgt Personnel/Regulators**	.09	.02			**Coordinate with Sample MGT Personnel / Regulators**
.10	.03					**Implement EPA-Approved Laboratory QA Program**	.09	.03			**Implement EPA-Approved Laboratory QA Program**
.10	.04	.00				**Provide Sample Management**	.09	.04	.00		**Provide Sample Management**
.10	.04	.01				Chain of Custody	.09	.04	.01		Chain of Custody
.10	.04	.02				Sample Retention	.09	.04	.02		Sample Retention
.10	.04	.03				Data Storage	.09	.04	.03		Data Storage
.10	.05	.00				**Perform Data Validation**	.09	.06	.00		**Perform Data Validation**
.10	.05	.01				Review Analysis Results to Validation Criteria	.09	.06	.01		Review Analysis Results to Validation Criteria
.10	.05	.02				Provide Written Documentation of Validation Efforts	.09	.06	.02		Provide Written Documentation of Validation Efforts
.11	.00					**DATA EVALUATION**	.09	.07			**Data Usability Evaluation / Field QA / QC**
.11	.01					**Data Useability Evaluation/Field QA/QC**	.09	.07			**Data Usability Evaluation / Field QA / QC**
.11	.02	.00				**Data Reduction, Tabulation and Evaluation**	.09	.08	.00		**Data Reduction, Tabulation and evaluation**
.11	.02	.01				Evaluate Geological Data (Soils/Sediments)	.09	.08	.01		Evaluate Geological Data (Soils / Sediments)
.11	.02	.02				Evaluate Air Data	.09	.08	.02		Evaluate Air Data
.11	.02	.03				Evaluate Hydrogeological Data - Groundwater	.09	.08	.03		Devaluate Hydrogeological Data -Groundwater
.11	.02	.04				Evaluate Hydrogeological Data - Surface Water	.09	.08	.04		Evaluate Hydrogeological Data - Surface Water
.11	.02	.05				Evaluate Waste Data	.09	.08	.05		Evaluate Waste Data
.11	.02	.06				Evaluate Geophysical Data	.09	.08	.06		Evaluate Geophysical Data
.11	.02	.07				Evaluate Ecological Data	.09	.08	.07		Evaluate Ecological Data
.11	.03					**Contaminant Fate And Transport Modeling**	.09	.09	.01		Contaminant Fate and transport Modeling
.11	.04					**Other Modeling**	.09	.09	.05		Other Modeling
.11	.05					**Document Data Evaluation**	.09	.10			**Document Data Evaluation**
.12	.00					**RISK ASSESSMENT**	.04	.00			**STUDIES/DESIGN & DOCUMENTATION**
.12	.01	.00				**Human Health Risk Assessment**	.04	.02	.00		**Human Health Risk Assessment**
.12	.01	.01				Hazard Identification (Sources)	.04	.02	.01		Hazard Identification (Sources)
.12	.01	.02				Dose-Response Assessment	.04	.02	.02		Dose-response Assessment
.12	.01	.03				Prepare Conceptual Exp./Pathway Analysis	.04	.02	.03		Prepare Conceptual Experiment / Pathway Analysis
.12	.01	.04				Characterization of Site and Potential Receptors	.04	.02	.04		Characterization of Site and Potential Receptors
.12	.01	.05				Exposure Assessment	.04	.02	.05		Exposure Assessment
.12	.01	.06				Risk Characterization	.04	.02	.06		Risk Characterization
.12	.01	.07				Limitations/Uncertainties	.04	.02	.07		Limitations / Uncertainties
.12	.01	.08				Site Conceptual Model	.04	.02	.08		Site Conceptual Model
.12	.02	.00				**Ecological Risk Assessment**	.04	.03	.00		**Ecological Risk Assessment**
.12	.02	.01				Hazard Identification (Sources)	.04	.03	.01		Hazard Identification (Sources)
.12	.02	.02				Prepare Conceptual Exp./Pathway Analysis	.04	.03	.03		Prepare Conceptual Experiment / Pathway Analysis
.12	.02	.03				Characterization of Site and Potential Receptors	.04	.03	.04		Characterization of Site and Potential Receptors
.12	.02	.04				Select Chemicals, Indicator Species, & End Points	.04	.03	.05		Select Chemicals, Indicator Species, & End Points
.12	.02	.05				Exposure Assessment	.04	.03	.06		Exposure Assessment
.12	.02	.06				Toxicity Assessment/Ecological Effects Assessment	.04	.03	.07		Toxicity Assessment / Ecological Effects Assessment
.12	.02	.07				Risk Characterization	.04	.03	.08		Risk Characterization
.12	.02	.08				Limitations/Uncertainties	.04	.03	.09		Limitations / Uncertainties
.12	.02	.09				Site Conceptual Model	.04	.03	.10		Site Conceptual Model
.12	.03					**Document Risk (Hrs)**	.04	.01			**Hazardous Ranking System (HRS)**
.13	.00					**DOCUMENT ASSESSMENT**	.04	.04	.00		**Document Remedial Investigation & Risk Assessment**
.13	.00					**DOCUMENT ASSESSMENT**	.04	.05	.00		**Perform Remedial Investigation (RI or RCRA RFI)**
.13	.01	.00				**Compose Draft Report(S)**	.04	.04	.02	.00	Compose Draft Remedial Investigation Reports
.13	.01	.01				Perform Data Compilation	.04	.04	.02	.01	Perform Data Compilation

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
.13	.01	.02				Present Data (Format Tables & Prepare Graphics)	.04	.04	.02	.02	Present Data (Format Tables & Prepare Graphics)
.13	.01	.03				Site Background	.04	.04	.02	.03	Site Background
.13	.01	.03				Site Background	.04	.05	.01		Site Background
.13	.01	.04				Investigation	.04	.04	.02	.04	Investigation
.13	.01	.04				Investigation	.04	.05	.02	.00	Investigation
.13	.01	.05				Site Characteristics	.04	.04	.02	.05	Site Characteristics
.13	.01	.05				Site Characteristics	.04	.05	.03	.00	Site Characteristics
.13	.01	.06				Nature and Extent of Contamination	.04	.04	.02	.06	Nature and Extent of Contamination
.13	.01	.06				Nature and Extent of Contamination	.04	.05	.04	.00	Nature & Extent of Contamination
.13	.01	.07				Fate and Transport	.04	.04	.02	.07	Fate and Transport
.13	.01	.07				Fate and Transport	.04	.05	.05	.00	Fate & Transport
.13	.01	.08				Summary and Conclusions	.04	.04	.02	.08	Summary and Conclusions
.13	.01	.08				Summary and Conclusions	.04	.05	.06		Summary & Conclusions
.13	.01	.09				Reproduction / Distribution	.04	.04	.02	.09	Reproduction / Distribution
.13	.02					**Respond to Comments**	.04	.04	.03		Respond to Comments
.13	.03	.00				**Finalize Report**	.04	.04	.04	.00	Finalize Report
.13	.03	.01				Reproduction / Distribution	.04	.04	.04	.01	Reproduction / Distribution
.14	.00					**ALTERNATIVE EVALUATION (RA / CM)**					
.14	.01	.00				**Develop Remedial Alternatives**	.04	.06	.00		**Develop Remedial Alternatives**
.14	.01	.01				Establish Remedial Action Objectives	.04	.06	.01		Establish Remedial Action Objectives
.14	.01	.02				Establish General Response Actions	.04	.06	.02		Establish General Response Actions
.14	.01	.03				Id Preliminary Alts	.04	.06	.03		ID Preliminary Alternatives
.14	.01	.04				Identify & Screen Applicable Remedial Technologies	.04	.06	.04		Identify & Screen Applicable Remedial Technologies
.14	.01	.05				Identify Treatability Study Requirement	.04	.06	.06		Identify Treatability Study Requirement
.14	.01	.06				Assemble Technologies into Actions	.04	.06	.07		Assemble Technologies Into Actions
.14	.01	.07				Develop Conceptual Site Model	.04	.06	.08		Develop Conceptual Site Model
.14	.02	.00				**Screen Remedial Alternatives**	.04	.07	.00		**Screen Remedial Alternatives**
.14	.02	.01				Screen Alts Based on Selected Criteria	.04	.07	.01		Screen Alternatives Base on Selected Criteria
.14	.02	.06				ID / Evaluate Action-Specific ARARS	.04	.07	.02		ID / Evaluate Action-Specific ARARs
.14	.02	.07				Refine List of Alternatives	.04	.07	.03		Refine List of Alternatives
.14	.03	.00				**Evaluate Alternatives**	.04	.08	.00		**Evaluate Alternatives**
.14	.03	.01				Overall Protection of Human Health & Environment	.04	.08	.01		Overall Protection of Human Health & Environment
.14	.03	.02				Compliance With ARARS	.04	.08	.02		Compliance with ARARs
.14	.03	.03				Long-Term Effectiveness and Permanence	.04	.08	.03		Long-Term Effectiveness and Permanence
.14	.03	.04				Reduction in Toxicity, Mobility or Volume	.04	.08	.04		Reduction in Toxicity, Mobility or Volume
.14	.03	.05				Short-Term Effectiveness	.04	.08	.05		Short-Term Effectiveness
.14	.03	.06				Implementability - Technical and Administrative	.04	.08	.06		Implementability - Technical And Administrative
.14	.03	.07				Cost	.04	.08	.07		Cost
.14	.03	.08				State Acceptance	.04	.08	.08		State Acceptance
.14	.03	.09				Community Acceptance	.04	.08	.09		Community Acceptance
.14	.04	.00				**Refinement of Alternatives**	.04	.09	.00		**Refinement of Alternatives**
.14	.04	.01				Priority Model Scoring	.04	.09	.01		Priority Model Scoring
.14	.04	.02				Selection Of Remedy / Documentation	.04	.09	.02		Selection of Remedy / Documentation
.15	.00					**TREATABILITY STUDIES**	.10	.00			**TREATABILITY/RESEARCH & DEVELOPMENT**
.15	.01					**Literature Search**	.10	.01			**Literature Search**
.15	.02					**Develop Treatability Work Plan**	.10	.03			**Develop Treatability Work Plan**
.15	.03	.00				**Bench Test**	.10	.05	.00		**Bench Test**
.15	.03	.01				Provide Test Facility and Equipment	.10	.05	.01		Provide Test Facility and Equipment
.15	.03	.02				Provide Vendor & Analytical Service	.10	.05	.02		Provide Vendor & Analytical Service
.15	.03	.03				Test and Operate Equipment	.10	.05	.03		Test and Operate Equipment
.15	.03	.04				Retrieve Sample for Testing	.10	.05	.04		Retrieve Sample for Testing
.15	.03	.05				Laboratory Analysis	.10	.05	.05		Laboratory Analysis
.15	.03	.06				Characterize and Dispose Of Residuals	.10	.05	.06		Characterize and Dispose of Residuals
.15	.04	.00				**Pilot Scale Test**	.10	.06	.00		**Pilot Scale Test**
.15	.04	.01				Provide Test Facility and Equipment	.10	.06	.01		Provide Test Facility and Equipment
.15	.04	.02				Provide Vendor & Analytical Service	.10	.06	.02		Provide Vendor & Analytical Service

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
.15	.04	.03				Test and Operate Equipment	.10	.06	.03		Test and Operate Equipment
.15	.04	.04				Retrieve Sample for Testing	.10	.06	.04		Retrieve Sample for Testing
.15	.04	.05				Laboratory Analysis	.10	.06	.05		Laboratory Analysis
.15	.04	.06				Characterize and Dispose Of Residuals	.10	.06	.06		Characterize and Dispose of Residuals
.15	.05	.00				**Field Test**	.10	.07	.00		**Field Test**
.15	.05	.01				Provide Test Facility and Equipment	.10	.07	.01		Provide Test Facility and Equipment
.15	.05	.02				Provide Vendor & Analytical Service	.10	.07	.02		Provide Vendor & Analytical Service
.15	.05	.03				Test and Operate Equipment	.10	.07	.03		Test and Operate Equipment
.15	.05	.04				Retrieve Sample for Testing	.10	.07	.04		Retrieved Sample For Testing
.15	.05	.05				Laboratory Analysis	.10	.07	.05		Laboratory Analysis
.15	.05	.06				Characterize and Dispose Of Residuals	.10	.07	.06		Characterize and Dispose of Residuals
.15	.06	.00				**Document Treatability Study**	.10	.11	.00		**Document Treatability Study**
.15	.06	.01				Compose Draft Report	.10	.11	.01		Compose Draft Report
.15	.06	.02				Respond To Comments / Finalize Report	.10	.11	.02		Respond to Comments / Finalize Report
.15	.06	.03				Reproduction / Distribution	.10	.11	.03		Reproduction / Distribution
.16	.00					**DOCUMENT FS (CMS)**	.04	.10	.00		**Document Feasibility Study (FS or RCRA - CMS)**
.16	.01	.00				**Compose Draft FS (CMS) Report**	.04	.10	.01	.00	Compose Draft FS (CMS) Report
.16	.01	.01				Perform Data Compilation	.04	.10	.01	.01	Perform Data Compilation
.16	.01	.02				Present Data (Format Tables & Prepare Graphics)	.04	.10	.01	.02	Present Data (Format Tables & Prepare Graphics)
.16	.01	.03				Feasibility Study Objectives	.04	.10	.01	.03	Feasibility Study Objectives
.16	.01	.04				Remedial Objectives	.04	.10	.01	.04	Remedial Objectives
.16	.01	.05				General Response Actions	.04	.10	.01	.05	General Response Actions
.16	.01	.06				ID and Screening of Remedial Technologies	.04	.10	.01	.06	ID and Screening of Remedial Technologies
.16	.01	.07				Remedial Alternatives Description	.04	.10	.01	.07	Remedial Alternatives Description
.16	.01	.08				Detailed Analysis of Remedial Alternatives	.04	.10	.01	.08	Detailed Analysis of Remedial Technologies
.16	.01	.09				Develop Engineering Cost Analysis of Selected Alt	.04	.10	.01	.09	Develop Engineering Cost Analysis of Selected Alternative
.16	.01	.10				Summary and Conclusions	.04	.10	.01	.10	Summary and Conclusions
.16	.01	.11				Reproduction / Distribution	.04	.10	.01	.11	Reproduction/Distribution
.16	.02					**Respond to Comments**	.04	.10	.02		Respond to Comments
.16	.03	.00				**Finalize Report**	.04	.10	.03	.00	Finalize Report
.16	.03	.01				Reproduction / Distribution	.04	.10	.03	.01	Reproduction / Distribution
.17	.00					**POST ASSESSMENT SUPPORT**	.02	.01	.04	.00	Administration / Reporting
.17	.01					**Attend Public Meetings/Hearings/Meetings with PRP's**	.02	.01	.04	.01	Meeting Participation/Routine Communications
.17	.02					**Prepare Presentation Materials**	.02	.01	.04	.02	Prepare Presentation Materials
.17	.03	.00				**Assist in Preparation of Documents**	.02	.01	.04	.03	Assist in Preparation of Documents
.17	.03	.01				Proposed Plan	.02	.01	.04	.03	Assist in Preparation of Documents
.17	.03	.02				Responsiveness Summary	.02	.01	.04	.03	Assist in Preparation of Documents
.17	.03	.03				Decision Document	.02	.01	.04	.03	Assist in Preparation of Documents
.17	.04					**Prepare Feasibility Study Addendum**	.04	.10	.04		Prepare Feasibility Study Addendum
.18	.00					**ENFORCEMENT SUPPORT**	.02	.10	.00		**Enforcement**
.18	.01					**PRP Searches / Field Investigations**	.02	.10	.01		PRP Searches / Field Investigations
.18	.02	.00				**PRP Negotiation Support**	.02	.10	.02	.00	PRP Negotiation Support
.18	.02	.01				Attend Negotiation Sessions and Meetings	.02	.10	.02	.01	Attend Negotiation Sessions and Meetings
.18	.02	.02				Review of PRP Documents	.02	.10	.02	.02	Review of PRP Documents
.18	.02	.03				Document Findings	.02	.10	.02	.03	Document Findings
.19						**IDENTIFICATION OF LONG LEAD ITEMS**	.02	.05	.01		Identify Long Lead Items
.20	.00					**DESIGN PREPARATION (6% Limit)**	.04	.11	.00		**Environmental Restoration Project Design**
.20	.01	.00				**Preliminary Design**	.04	.11	.01	.00	Preliminary Design
.20	.01	.01				Recommend Project Delivery Strategy and Schedule	.04	.11	.01	.01	Recommend Project Delivery Strategy and Scheduling
.20	.01	.02				Prepare Preliminary Construction Schedule	.04	.11	.01	.02	Prepare Preliminary Construction Schedule
.20	.01	.03				Prepare Specifications Outline	.04	.11	.01	.03	Prepare Specifications Outline
.20	.01	.04				Prepare Preliminary Drawings	.04	.11	.01	.04	Prepare Preliminary Drawings
.20	.01	.05				Prepare Basis Of Design Report/Design Analysis	.04	.11	.01	.05	Prepare Basis of Design Report / Design Analysis
.20	.01	.06				Prepare Preliminary Cost Estimate	.04	.11	.01	.06	Prepare Preliminary Cost Estimate
.20	.02	.00				**Intermediate Design**	.04	.11	.02	.00	Intermediate Design
.20	.02	.01				Update Construction Schedule	.04	.11	.02	.01	Update Construction Schedule

32			33 & 34				2nd	3rd	4th	5th	Environmental Management
2nd	3rd	4th	2nd	3rd	4th	STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	(Environmental Restoration & Waste Management)
.20	.02	.02				Prepare Preliminary Specifications	.04	.11	.02	.02	Prepare Preliminary Specifications
.20	.02	.03				Prepare Intermediate Drawings	.04	.11	.02	.03	Prepare Intermediate Drawings
.20	.02	.04				Prepare Basis of Design Report/Design Analysis	.04	.11	.02	.04	Prepare Basis of Design Report / Design Analysis
.20	.02	.05				Prepare Revised Cost Estimate	.04	.11	.02	.05	Prepare Revised Cost Estimate
.20	.02	.06				Participate in Intermediate Design Review/Briefing	.04	.11	.02	.06	Participate in Intermediate Design Review / Briefing
.20	.03	.00				**Pre-Final / Final Design**	.04	.11	.03	.00	Pre-Final / Final Design
.20	.03	.01				Prepare Pre-Final Design Specifications	.04	.11	.03	.01	Prepare Pre-Final Design Specifications
.20	.03	.02				Prepare Pre-Final Drawings	.04	.11	.03	.02	Prepare Pre-Final Drawings
.20	.03	.03				Prepare Basis Of Design Report/Design Analysis	.04	.11	.03	.03	Prepare Basis of Design Report / Design Analysis
.20	.03	.04				Prepare Revised Cost Estimate	.04	.11	.03	.04	Prepare Revised Cost estimate
.20	.03	.05				Participate In Pre-Final/Final Design Review	.04	.11	.03	.05	Participate in Pre-Final / Final Design Review
.20	.03	.06				Prepare 100% Design Submittal	.04	.11	.03	.06	Prepare 100% Design Submittal
.21	.00					**VALUE ENGINEERING / SPECIAL STUDIES**	.04	.14	.00		**Value Engineering/Special Studies**
.21	.01					**Perform VE Screening**	.04	.14	.01		Perform VE Screening
.21	.02					**Perform Value Engineering Study**	.04	.14	.02		Perform Value Engineering Study
.21	.03					**Document VE Study Results**	.04	.14	.03		Document VE Study Results
.21	.04	.00				**Develop Land Acquisition/Easement Requirements**	.04	.14	.04	.00	Develop Land Acquisition / Easement Requirements
.21	.04	.01				Provide Technical Support in Land Acquisition	.04	.14	.04	.01	Provide Technical Support in Land Acquisition
.21	.05					**Participate in Biddability/Constructability Reviews**	.04	.14	.05		Participate in Biddability / Constructability Reviews
.22	.00					**POST DESIGN SUPPORT**	.02	.05	.00		**Post Design Support**
.22	.01	.00				**Perform Prebid (Pre-Solicitation) Activities**	.02	.05	.02	.00	Perform Prebid (Pre-Solicitation) Activities
.22	.01	.01				Support Preparation of Solicitation Package	.02	.05	.02	.01	Support Preparation of Solicitation Package
.22	.01	.02				Printing and Distribution of Contract Documents	.02	.05	.02	.02	Printing and Distribution of Contract Documents
.22	.01	.03				Advertising/Soliciting of Bids	.02	.05	.02	.03	Advertising/Soliciting of Bids
.22	.01	.04				Issuing Addenda	.02	.05	.02	.04	Issuing Addenda
.22	.01	.05				Prebid(Pre-Solicitation) Meetings	.02	.05	.02	.05	Pre-Bid (Pre-Solicitation) Meetings
.22	.01	.06				Resolution of Bidder (Offeror) Inquiries	.02	.05	.02	.06	Resolution of Bidder (Offeror) Inquiries
.22	.01	.07				On-Site Visits	.02	.05	.02	.07	On-site Visits
.22	.02	.00				**Perform Preaward Activities**	.02	.05	.03	.00	Perform Pre-award Activities
.22	.02	.01				Receipt of Bids (Offers)	.02	.05	.03	.01	Receipt of Bids (Offers)
.22	.02	.02				Determination of Responsive, Responsible Bidders	.02	.05	.03	.02	Determination of Responsive, Responsible Bidders
.22	.02	.03				Bid Tabulation	.02	.05	.03	.03	Bid Tabulation
.22	.02	.04				Bid Analysis	.02	.05	.03	.04	Bid Analysis
.22	.02	.05				Receipt Of Follow-Up Items From Low. Resp. Bidder	.02	.05	.03	.05	Receipt of Follow-Up Items From Low. Resp. Bidder
.22	.02	.06				Review Of Eeo, Mbe Require., Sdb Subcontr. Plans	.02	.05	.03	.06	Review of EEO, MBE Requirements, SDB Subcontractor Plans
.22	.02	.07				Reference Checks	.02	.05	.03	.07	Reference Checks
.22	.02	.08				Request for Consent from EPA	.02	.05	.03	.08	Request for Consent From EPA
.22	.02	.09				Support Preparation of Contract Documents	.02	.05	.03	.09	Support Preparation of Contract Documents
.23	.00					**A/E SUPPORT DURING REMEDIAL ACTION**	.02	.07	.00		**A/E Support During Remedial Action**
.23	.01					**Submittal Reviews**	.02	.07	.01		Submittal Reviews
.23	.02					**Site Inspection**	.02	.07	.02		Site Inspection
.23	.03					**Document Activities**	.02	.07	.03		Document Activities
.23	.04					**Participate In Construction Management Meetings**	.02	.07	.04		Participate in Construction Management Meetings
			.01	.00		**MOBILIZATION AND PREPARATORY WORK**	.11	.01	.00		**Mobilization**
			.01	.01		**Mobilization of Construction Equipment and Facilities**	.11	.01	.01		Mobilization of Construction Equipment & Facilities
			.01	.02		**Mobilization of Personnel**	.11	.01	.02		Mobilization of Personnel
			.01	.03		**Submittals/Implementation Plans**	.03	.12			**Submittals / Implementation Plans**
			.01	.04		**Setup/Construct Temporary Facilities**	.11	.01	.03		Setup / Construct Temporary Facilities
			.01	.05		**Construct Temporary Utilities**	.11	.01	.04		Construct Temporary Utilities
			.01	.06		**Temporary Relocations/Roads/Structures/Utilities**	.05	.07			**Borrow Pit / Haul Roads**
			.01	.06		**Temporary Relocations/Roads/Structures/Utilities**	.05	.08			**Access Roads**
			.01	.06		**Temporary Relocations/Roads/Structures/Utilities**	.05	.19			**Structures / Culverts**
			.01	.06		**Temporary Relocations/Roads/Structures/Utilities**	.05	.20			**Gas Distribution**
			.01	.06		**Temporary Relocations/Roads/Structures/Utilities**	.05	.26			**Water Distribution**
			.01	.06		**Temporary Relocations/Roads/Structures/Utilities**	.05	.29			**Communications**
			.01	.07		**Construction Plant Erection**	.11	.01	.05		Construct Plant Erection

32			33 & 34				2nd	3rd	4th	5th	Environmental Management
2nd	3rd	4th	2nd	3rd	4th	STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	(Environmental Restoration & Waste Management)
			.01	.08		**Institutional Controls**	.02	.04	.00		**Institutional Controls**
			.01	.09		**Alternate Water Supply**	.02	.04	.01		Alternate Water Supply
			.01	.10		**Population Relocation**	.02	.04	.02		Population Relocation
			.02	.00		**MONITORING, SAMPLING, TESTING, AND ANALYSIS**	.07	.00			**INVESTIGATIONS & MONITORING/SAMPLE COLLECTION**
			.02	.00		**MONITORING, SAMPLING, TESTING, AND ANALYSIS**	.08	.00			**SAMPLE ANALYSIS**
			.02	.01		**Meteorological Monitoring**	.07	.02			**Meteorological Monitoring**
			.02	.02		**Radiation Monitoring**	.07	.03			**Site Contaminant Surveys / Radiation Monitoring**
			.02	.03		**Air Monitoring and Sampling**	.07	.08	.00		**Air Sampling**
			.02	.04		**Monitoring Wells**	.07	.09	.01	.00	Monitoring Well Systems
			.02	.05	.00	**Sampling Surface Water/Ground Water/Liquid Waste**	.07	.10			**Surface Water Sampling**
			.02	.05	.01	Surface Water	.07	.10			**Surface Water Sampling**
			.02	.05	.02	Ground Water	.07	.09	.02		Sample Collection - Groundwater
			.02	.05	.03	Liquid Waste	.07	.13	.02		Sample Collection - Liquid
			.02	.05	.04	Treatment Process Effluents	.09	.05			**Derived Waste Disposal (Gas, Liquid, Solid)**
			.02	.05	.05	Sample Shipping and Handling	.09	.01	.00		**Prepare and Ship Environmental Samples**
			.02	.06	.00	**Sampling Soil and Sediment**	.07	.11	.00		**Soil / Sediment Sampling**
			.02	.06	.01	Surface Soil	.07	.11	.01		Surface Soil Sample Collection
			.02	.06	.02	Sub-surface Soil	.07	.11	.02		Subsurface Soil Sample Collection
			.02	.06	.03	Sediment/Sludge	.07	.11	.04		Sediments Sample Collection
			.02	.06	.04	Sample Shipping and Handling	.09	.01	.00		**Prepare and Ship Environmental Samples**
			.02	.07		**Sampling Asbestos**	.07	.13	.03		Sample Collection - Solid
			.02	.08	.00	**Sampling Radioactive Contaminated Media**					
			.02	.08	.01	Surface Water	.07	.10			**Surface Water Sampling**
			.02	.08	.02	Ground Water	.07	.09	.02		Sample Collection - Groundwater
			.02	.08	.03	Liquid Waste	.07	.13	.02		Sample Collection - Liquid
			.02	.08	.04	Surface Soil	.07	.11	.01		Surface Soil Sample Collection
			.02	.08	.05	Sub-Surface Soil	.07	.11	.02		Subsurface Soil Sample Collection
			.02	.08	.06	Sediment/Sludge	.07	.11	.04		Sediments Sample Collection
			.02	.08	.08	Sample Shipping and Handling	.09	.01	.00		**Prepare and Ship Environmental Samples**
			.02	.09	.00	**Laboratory Chemical Analysis**	.08	.00			**SAMPLE ANALYSIS**
			.02	.09	.01	Air/Industrial Hygiene Analysis	.08	.01	.00		**Air / Gas Sample Analysis**
			.02	.09	.02	General Water Quality and Wastewater Analysis	.08	.06	.00		**Liquid Waste Sample Analysis**
			.02	.09	.03	Priority Pollutant Analysis (all media)	.08	.00			**SAMPLE ANALYSIS**
			.02	.09	.04	Biomonitoring and Bioassay Analysis	.08	.09			**Bioassay Sample Analysis**
			.02	.09	.05	Hazardous Waste (RCRA) Analysis	.08	.00			**SAMPLE ANALYSIS**
			.02	.09	.06	Miscellaneous Waste Analysis	.08	.00			**SAMPLE ANALYSIS**
			.02	.09	.07	Soil and Sediment Analysis	.08	.04	.00		**Soil / Sediment Sample Analysis**
			.02	.10	.00	**Radioactive Waste Analysis**					
			.02	.10	.01	Rad Analytical Animal Tissue/Bone	.08	.09			**Bioassay Sample Analysis**
			.02	.10	.02	Rad Analytical Air	.08	.01	.00		**Air / Gas Sample Analysis**
			.02	.10	.03	Rad Analytical Liquid	.08	.06	.00		**Liquid Waste Sample Analysis**
			.02	.10	.04	Rad Analytical Urine/Feces	.08	.09			**Bioassay Sample Analysis**
			.02	.10	.05	Rad Analytical Vegetation/Sediment/Soil	.08	.08	.00		**Biota Sample Analysis**
			.02	.10	.06	Rad Analytical Miscellaneous	.08	.9x			**Other Sample Analysis**
			.02	.11		**Geotechnical Testing**	.07	.06	.02		Surface Geophysical Activity
			.02	.12		**Geotechnical Instrumentation**	.07	.06	.02		Surface Geophysical Activity
			.02	.13		**On-Site Laboratory Facilities**	.05	.01	.03		Setup / Construct Temporary Facilities
			.02	.14		**Off-Site Laboratory Facilities**	.05	.01	.03		Setup / Construct Temporary Facilities
			.03	.00		**SITEWORK**	.05	.00			**SITE WORK**
			.03	.01		**Demolition**	.05	.04			**Demolition**
			.03	.02		**Clearing and Grubbing**	.05	.03			**Clear & Grub**
			.03	.03		**Earthwork**	.05	.05			**Excavation/Earthwork**
			.03	.04		**Roads/Parking/Curbs/Walks**	.05	.08			**Access Roads**
			.03	.04		**Roads/Parking/Curbs/Walks**	.05	.15			**Parking Lots**
			.03	.04		**Roads/Parking/Curbs/Walks**	.05	.17			**Sidewalks**
			.03	.05		**Fencing**	.05	.14			**Fencing**

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
			.03	.06		Electrical Distribution	.05	.31			Overhead Electrical Distribution
			.03	.07		Telephone/Communication Distribution	.05	.29			Communications
			.03	.08		Water/Sewer/Gas Distribution	.05	.20			Gas Distribution
			.03	.08		Water/Sewer/Gas Distribution	.05	.26			Water Distribution
			.03	.08		Water/Sewer/Gas Distribution	.05	.28			Storm Sewer
			.03	.09		Steam and Condensate Distribution	.05	.24			Install Steam and Condensate Distribution
			.03	.10		Fuel Line Distribution	.05	.21			Install Fuel Line Distribution
			.03	.11		Storm Drainage/Subdrainage	.05	.28			Storm Sewer
			.03	.12		Permanent Cover Structure Over Contaminated Area	.11	.04			Treatment Train Facility Construction (e.g., Rain Covers, Foundation, Utilities)
			.03	.13		Development of Borrow Pit/Haul Roads	.05	.07			Borrow Pit / Haul Roads
			.03	.14		Fuel Storage Tanks (New)	.05	.22			Fuel Storage Tanks
			.04	.00		ORDNANCE & EXPLOSIVE - CHEMICAL WARFARE MATERIAL (OE-CWM) REMOVAL AND DESTRUCTION					
			.04	.01	.00	Ordnance Removal and Destruction	.14	.00			ORDNANCE & EXPLOSIVES REMOVAL & DESTRUCTION
			.04	.01	.01	Demolition for OE Removal	.14	.01			Demolition for OE Removal
			.04	.01	.02	Brush Clearing with OE	.14	.02			Brush Clearing with OE
			.04	.01	.03	Blast Mats	.14	.03			Blast Mats
			.04	.01	.04	Blast Shields	.14	.04			Blast Shields
			.04	.01	.05	Surface Sweep (Visual)	.14	.05			Surface Sweep (Visual)
			.04	.01	.06	Surface Sweep (Magnetometer)	.14	.06			Surface Sweep (Magnetometer)
			.04	.01	.07	Surface Sweep (Mag & Flag)	.14	.07			Surface Sweep (Mag & Flag)
			.04	.01	.08	Excavate by Hand 0' - 2' Depth	.14	.08			Excavate by Hand 0' - 2' Depth
			.04	.01	.09	Excavate with Heavy Equipment > 2' Depth	.14	.09			Excavate with Heavy Equipment > 2' Depth
			.04	.01	.10	Sifting	.14	.10			Sifting
			.04	.01	.11	Removal of Chemical Warfare Material (CWM)	.14	.11			Removal of Chemical Warfare Material (CWM)
			.04	.01	.12	OE On-Site Destruction	.14	.12			OE On-Site Destruction
			.04	.01	.13	OE Off-Site Destruction Transportation to DOD Facility	.32	.03			OE Off-Site Destruction Transportation to DOD Facility
			.04	.01	.14	Bunkers (Temporary)	.14	.13			Bunkers (Temporary)
			.05	.00		SURFACE WATER COLLECTION AND CONTROL	.17	.00			SURFACE WATER/SEDIMENTS CONTAINMENT, COLLECTION, OR CONTROL
			.05	.01		Berms/Dikes	.17	.02			Berms
			.05	.02		Floodwalls	.17	.03			Floodwalls
			.05	.03		Levees	.17	.04			Levees / Dams / Dikes
			.05	.04		Terraces and Benches	.17	.05			Terraces and Benches
			.05	.05		Channels/Waterways (Soil/Rock)	.17	.06			Channels / Waterways / Ditches
			.05	.06		Chutes or Flumes	.17	.07			Chutes or Flumes
			.05	.07		Sediment Barriers	.17	.08			Sediments Barriers
			.05	.08		Storm Drainage	.17	.09			Storm Drainage
			.05	.09		Lagoons/Basins/Tanks/Dikes/Pump System	.17	.10			Lagoons / Basins / Tanks
			.05	.10		Pumping/Draining/Collection	.17	.11			Pumping / Draining / Collection
			.05	.11		Transport to Treatment Plant	.32	.05	.01		Transport to Treatment Plant
			.05	.12		Earthwork	.05	.05			Excavation/Earthwork
			.05	.13		Erosion Control	.17	.12			Erosion Control
			.05	.14		Development of Borrow Pit/Haul Roads	.05	.07			Borrow Pit / Haul Roads
			.06	.00		GROUNDWATER COLLECTION AND CONTROL	.18	.00			GROUNDWATER CONTAINMENT, COLLECTION, OR CONTROL
			.06	.01		Extraction and Injection Wells	.18	.01			Extraction Wells
			.06	.02		Subsurface Drainage/Collection	.18	.03			Subsurface Drainage / Collection
			.06	.03		Slurry Walls	.18	.04			Slurry Walls
			.06	.04		Grout Curtain	.18	.05			Grout Curtain
			.06	.05		Sheet Piling	.18	.06			Sheet Piling
			.06	.06		Lagoons/Basins/Tanks/Dikes/Pump System	.20	.03			Pumping / Draining / Collection
			.06	.07		Pumping/Collection	.20	.03			Pumping / Draining / Collection
			.06	.08		Transport to Treatment Plant	.32	.06			Groundwater (Free Product) Transportation
			.06	.09		Development of Borrow Pit/Haul Roads	.05	.07			Borrow Pit / Haul Roads
			.07	.00		AIR POLLUTION/GAS COLLECTION AND CONTROL	.16	.00			AIR POLLUTION/GAS COLLECTION & CONTROL
			.07	.01		Gas/Vapor Collection Trench System	.16	.01			Gas / Vapor Collection Trench System,
			.07	.02		Gas/Vapor Collection Well System	.16	.02			Gas / Vapor Collection Well System
			.07	.03		Gas/Vapor Collection at Lagoon Cover	.16	.03			Gas Collection at Lagoon Cover

32			33 & 34				2nd	3rd	4th	5th	Environmental Management
2nd	3rd	4th	2nd	3rd	4th	STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	(Environmental Restoration & Waste Management)
			.07	.04		Fugitive Dust/Vapor/Gas Emissions Control	.16	.04			Fugitive Dust / Vapor / Gas Emission Control
			.08	.00		SOLIDS COLLECTION AND CONTAINMENT	.19	.00			SOLIDS/SOILS CONTAINMENT (e.g., CAPPING) COLLECTION, OR CONTROL
			.08	.01		Contaminated Soil Collection	.19	.01			Contaminated Soil Collection
			.08	.02		Waste Containment, Portable (Furnish/Fill)	.19	.02			Waste Containment, Portable (Furnish / Fill)
			.08	.03		Transport to Treatment Plant	.32	.08	.01		Transport to Treatment Plant
			.08	.04		Radioactive Specific Waste Containment (Furnish/Fill)	.19	.02			Waste Containment, Portable (Furnish / Fill)
			.08	.05		Capping of Contaminated Area/Waste Pile (Soil/Asphalt Cap)	.19	.03			Soil / Clay Cap
			.08	.05		Capping of Contaminated Area/Waste Pile (Soil/Asphalt Cap)	.19	.04			Asphalt / Concrete Caps
			.08	.06		Nuclear Waste Densification (Dynamic Compaction)	.26	.07			Compaction / Volume Reduction
			.08	.07		Development of Borrow Pit/Haul Roads	.05	.07			Borrow Pit / Haul Roads
			.09	.00		LIQUIDS/SEDIMENTS/SLUDGES COLLECTION AND CONTAINMENT	.17	.00			SURFACE WATER/SEDIMENTS CONTAINMENT, COLLECTION, OR CONTROL
			.09	.00		LIQUIDS/SEDIMENTS/SLUDGES COLLECTION AND CONTAINMENT	.20	.00			LIQUID WASTE/SLUDGE (e.g., UST/AST) CONTAINMENT, COLLECTION, OR CONTROL
			.09	.01		Dredging/Excavating	.17	.01			Dredging / Excavating
			.09	.02		Industrial Vacuuming	.20	.01			Industrial Vacuuming
			.09	.03		Waste Containment, Portable (Furnish/Fill)	.20	.02			Waste Containment - Portable
			.09	.04		Transport to Treatment Plant	.32	.07	.01		Transport to Treatment Plant
			.09	.05		Radioactive Specific Waste Containment (Furnish/Fill)	.20	.02			Waste Containment - Portable
			.09	.06		Pumping/Draining/Collection	.20	.03			Pumping / Draining / Collection
			.09	.07		Lagoons/Basins/Tanks/Dikes/Pump System	.20	.03			Pumping / Draining / Collection
			.09	.08		Development of Borrow Pit/Haul Roads	.05	.07			Borrow Pit / Haul Roads
			.10	.00		DRUMS/TANKS/STRUCTURES/MISCELLANEOUS DEMOLITION AND REMOVAL	.15	.00			DRUMS/TANKS/STRUCTURES/MISC DEMOLITION & REMOVAL
			.10	.01		Drum Removal	.15	.01			Drum Removal
			.10	.02		Tank Removal	.15	.02			Tank Removal
			.10	.03		Structure Removal	.15	.03			Structure Removal
			.10	.04		Asbestos Abatement	.15	.04			Asbestos Abatement
			.10	.05		Piping and Pipeline Removal	.15	.05			Piping & Pipeline Removal
			.10	.06		Radioactive Specific Waste Containment (Furnish/Fill)	.19	.01			Contaminated Soil Collection
			.10	.07		Miscellaneous Items	.19	.9X			Other
			.10	.08		Contaminated Paint Removal	.31	.08	.07		Surface decontamination of walls
			.11	.00		BIOLOGICAL TREATMENT	.21	0			IN SITU BIOLOGICAL TREATMENT
			.11	.00		BIOLOGICAL TREATMENT	.22	.00			EX SITU BIOLOGICAL TREATMENT
			.11	.01		Activated Sludge (Seq Batch Reactors)	.22	.01			Activated Sludge
			.11	.02		Rotating Biological Contractors	.22	.07			Rotating Biological Contactors
			.11	.03		Land Treatment/Farming (Solid Phase Biodegradation)	.22	.06			Land Farming / Composting
			.11	.04		In-Situ Biodegradation/Bioreclamation	.21	.08			Natural attenuation
			.11	.05		Trickling Filters	.22	.09			Trickling Filter
			.11	.06		Biological Lagoons	.21	.05			Constructed Wetlands
			.11	.07		Composting	.22	.06			Land Farming / Composting
			.11	.08		Sludge Stabilization - Aerobic	.30	.06			Sludge Stabilization (Aggregate / Rock / Slag)
			.11	.09		Sludge Stabilization - Anaerobic	.30	.06			Sludge Stabilization (Aggregate / Rock / Slag)
			.11	.10		Genetically Engineered Organisms (White Rot Fungus)	.22	.05			Genetically Engineered Organisms (White Rot Fungus)
			.11	.11		Slurry Biodegradation	.22	.08			Slurry Biodegradation
			.11	.12		Bioventing	.21	.03			Bioventing/Biosparging
			.11	.13		Bioslurping	.21	.02			Bioslurping
			.11	.14		Biopile (Heap Pile Remediation)	.22	.03			Biopile
			.11	.50		Construction of Permanent Plant Facility	.11	.04			Treatment Train Facility Construction (e.g., Rain Covers, Foundation, Utilities)
			.12	.00		CHEMICAL TREATMENT	.23	.00			IN SITU CHEMICAL TREATMENT
			.12	.01		Oxidation/Reduction	.24	.09			Oxidation / Reduction
			.12	.02		Solvent Extraction	.24	.12			Solvent Extraction
			.12	.03		Chlorination	.24	.04			Chlorination
			.12	.04		Ozonation	.24	.11			Ozonation
			.12	.05		Ion Exchange	.24	.07			Ion Exchange
			.12	.06		Neutralization	.23	.04			Neutralization
			.12	.07		Chemical Hydrolysis	.24	.03			Chemical Hydrolysis
			.12	.08		Ultraviolet Photolysis	.24	.13			Ultraviolet Photolysis
			.12	.09		Dehalogenation (Catalytic Dechlorination)	.24	.05			Dehalogenation

32			33 & 34				2nd	3rd	4th	5th	Environmental Management
2nd	3rd	4th	2nd	3rd	4th	STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	Lvl	Lvl	Lvl	Lvl	(Environmental Restoration & Waste Management)
			.12	.10		Alkali Metal Dechlorination	.24	.01			Alkali Metal / Polyethylene Glycol
			.12	.11		Alkali Metal/Polyethylene Glycol (A/PEG)	.24	.01			Alkali Metal / Polyethylene Glycol
			.12	.12		Base-Catalyzed Decomposition Process	.24	.02			Base-Catalyzed Decomposition Process
			.12	.13		Electrolysis	.26	.15			Electrolysis
			.12	.14		Vapor Recovery/Reuse (Internal Combustion Engine)	.13	.19			Internal Combustion Engine (not including Halogenated VOCs)
			.12	.50		Construction of Permanent Plant Facility	.11	.04			Treatment Train Facility Construction (e.g., Rain Covers, Foundation, Utilities)
			.13	.00		PHYSICAL TREATMENT	.25	.00			IN SITU PHYSICAL TREATMENT
			.13	.00		PHYSICAL TREATMENT	.26	.00			EX SITU PHYSICAL TREATMENT
			.13	.01		Filtration/Ultrafiltration	.26	.19			Filtration
			.13	.02		Sedimentation	.26	.30			Sedimentation
			.13	.03		Straining	.26	.32			Sieving/Straining
			.13	.04		Coagulation/Flocculation/Precipitation	.26	.06			Coagulation / Flocculation / Precipitation
			.13	.05		Equalization	.26	.16			Equalization
			.13	.06		Evaporation	.26	.17			Evaporation
			.13	.07		Air Stripping	.26	.04			Air Stripping
			.13	.08		Steam Stripping	.28	.10			Steam Stripping / Flushing / Reforming
			.13	.09		Soil Washing (Surfactant/Solvent)	.26	.35			Soil Washing (Surfacant / Solvent)
			.13	.10		Soil Flushing (Surfactant/Solvent)	.23	.05			Soil Flushing (Surfactant / Solvent)
			.13	.11		Solids Dewatering	.25	.13			Solids Dewatering / Drying
			.13	.12		Oil/Water Separation	.26	.29			Oil / Water Separation
			.13	.13		Dissolved Air Floatation	.26	.10			Dissolved Air Floatation
			.13	.14		Heavy Media Separation	.26	.23			Heavy Media Separation
			.13	.15		Distillation	.26	.11			Distillation
			.13	.16		Chelation	.26	.05			Chelation
			.13	.17		Solvent Extraction	.24	.12			Solvent Extraction
			.13	.18		Supercritical Extraction	.26	.38			Supercritical Extraction
			.13	.19		Carbon Adsorption - Gases	.26	.21			Granular Activated Carbon Absorption-Gases/Vapor
			.13	.20		Carbon Adsorption - Liquids	.26	.22			Granular Activated Carbon Absorption-Liquids
			.13	.21		Membrane Separation - Reverse Osmosis	.26	.28			Membrane Separation-Reverse Osmosis
			.13	.22		Membrane Separation - Electrodialysis	.26	.27			Membrane Separation-Electrodialysis
			.13	.23		Soil Vapor Extraction	.26	.34			Soil Vapor Extraction
			.13	.24		Shredding	.26	.31			Shredding
			.13	.25		Aeration	.26	.01			Aeration
			.13	.26		Advanced Electrical Reactor	.26	.02			Advanced Electrical Reactor
			.13	.27		Low Level Waste (LLW) Compaction	.26	.07			Compaction / Volume Reduction
			.13	.28		Agglomeration	.26	.03			Agglomeration
			.13	.29		In-Situ Steam Extraction	.27	.04			Steam/Hot Water Injection Vacuum Extraction
			.13	.30		Filter Presses	.26	.18			Filter Presses
			.13	.31		Lignin Adsorption/Sorptive Clays	.26	.25			Lignin Adsorption / Sorptive Clays
			.13	.32		Air Sparging	.25	.03			Air Sparging
			.13	.50		Construction of Permanent Plant Facility	.11	.04			Treatment Train Facility Construction (e.g., Rain Covers, Foundation, Utilities)
			.14	.00		THERMAL TREATMENT	.27	.00			IN SITU THERMAL TREATMENT
			.14	.00		THERMAL TREATMENT	.28	.00			EX SITU THERMAL TREATMENT
			.14	.01		Incineration	.28	.02			Incineration
			.14	.02		Low Temperature Thermal Desorption	.28	.03			Low Temperature Thermal Desorption
			.14	.03		Supercritical Water Oxidation	.28	.11			Supercritical Water Oxidation
			.14	.04		Molten Salt Destruction	.28	.04			Molten Salt Destruction
			.14	.05		Radio Frequency Heating	.28	.08			Radio Frequency Heating
			.14	.06		Solar Detoxification	.28	.09			Solar Detoxification / Evaporation
			.14	.07		High Temperature Thermal Desorption	.27	.05			High Temperature Thermal Desorption
			.14	.50		Construction of Permanent Plant Facility	.11	.04			Treatment Train Facility Construction (e.g., Rain Covers, Foundation, Utilities)
			.15	.00		STABILIZATION/FIXATION/ENCAPSULATION	.29	.00			IN SITU STABILIZATION/FIXATION/ENCAPSULATION
			.15	.00		STABILIZATION/FIXATION/ENCAPSULATION	.30	.00			EX SITU STABILIZATION/FIXATION/ENCAPSULATION
			.15	.01		Molten Glass	.30	.07			Vitrification
			.15	.02		In-Situ Vitrification	.29	.04			Vitrification
			.15	.03		In-Situ Pozzolan Process (Lime/Portland Cement)	.29	.03			Pozzolan Process

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
			.15	.04		**Pozzolan Process (Lime/Portland Cement)**	.30	.04			**Pozzolan Process (lime/Portland Cement)**
			.15	.05		**Asphalt-Based Encapsulation**	.19	.04			**Asphalt / Concrete Caps**
			.15	.06		**Radioactive Waste Solidification (Grouting/Other)**	.29	.01			**Fixation / Grout Injection**
			.15	.07		**Sludge Stabilization (Aggregate/Rock/Slag)**	.30	.06			**Sludge Stabilization (Aggregate / Rock / Slag)**
			.15	.50		**Construction of Permanent Plant**	.11	.04			**Treatment Train Facility Construction (e.g., Rain Covers, Foundation, Utilities)**
			.16	.00		**RESERVED FOR FUTURE USE**					
			.17	.00		**DECONTAMINATION AND DECOMMISSIONING (D&D)**	.31	.00			**FACILITY DEACTIVATION, DECOMMISSIONING, & DISMANTLEMENT**
			.17	.01	.00	**Pre-Decommissioning Operations**					
			.17	.01	.01	Preparation of Decommissioning Plan	.03	.15			**Decommissioning Plan**
			.17	.01	.02	Licensing	.02	.03	.05		Regulatory Permitting (e.g., RCRA Part B Permit)
			.17	.01	.03	Radioactivity Surveys	.07	.03			**Site Contaminant Surveys / Radiation Monitoring**
			.17	.02	.00	**Facility Shutdown Activities**	.31	.01	.00		**Nuclear Facility Shutdown and Inspection**
			.17	.02	.01	Plant Shutdown and Inspection	.31	.01	.01		Plant shutdown and inspection
			.17	.02	.02	Defueling and Transfer of Fuel to Temporary Spent Fuel Storage	.31	.02	.01		Defueling and transfer of fuel
			.17	.02	.03	Drainage and Drying or Blowdown of all Systems not in Operation	.31	.02	.02		Draining and drying or blowdown of all systems not in operation
			.17	.02	.04	Samples for Radioactivity Inventory Characterization	.31	.07	.01		Samples for radiological inventory categorization
			.17	.02	.05	Disposal of System Fluids (water, oils,...)	.13	.18			**Disposal Fees and Taxes**
			.17	.02	.06	Disposal of Special System Fluids (D20, sodium,...)	.13	.18			**Disposal Fees and Taxes**
			.17	.02	.07	Decontamination of Systems for Dose Reduction	.31	.08	.01		Decontamination of systems for dose reduction/reduction of controlled area
			.17	.02	.08	Disposal of Wastes from Decontamination	.13	.18			**Disposal Fees and Taxes**
			.17	.02	.09	Disposal of Combustible Material	.13	.18			**Disposal Fees and Taxes**
			.17	.02	.10	Disposal of Spent Resins	.13	.18			**Disposal Fees and Taxes**
			.17	.02	.11	Disposal of Other Wastes from Reactor Operations	.13	.18			**Disposal Fees and Taxes**
			.17	.02	.12	Isolation of Power Equipment	.31	.02	.08		Reduction or elimination of electrical and water supply systems
			.17	.02	.13	Decon of Areas and Equip in all Bldgs to Reduce Controlled Area	.31	.02	.06		Disconnection of power supplies/perform zero energy checks
			.17	.02	.14	Mothballing	.31	.16	.02		Mothballing
			.17	.02	.15	Entombment	.31	.16	.03		Entombment
			.17	.03	.00	**Procurement of Equipment and Material**	.02	.06	.00		**Procurement - Equipment & Material**
			.17	.03	.01	Site Dismantling Equipment	.02	.06	.00		**Procurement - Equipment & Material**
			.17	.03	.02	Radiation Protection and Health Physics Equipment	.02	.06	.00		**Procurement - Equipment & Material**
			.17	.03	.03	Security and Maintenance Equipment for Long-Term Storage	.02	.06	.00		**Procurement - Equipment & Material**
			.17	.04	.00	**Dismantling Activities**					
			.17	.04	.01	Decon of Areas and Equip in all Bldgs to Facilitate Dismantling	.31	.08	.00		**Decontamination of Area and Equipment**
			.17	.04	.02	Drainage of Spent Fuel Pool and Decontamination of Linings	.31	.13	.00		**Removal of Pool Linings**
			.17	.04	.03	Zoning for Long-Term Storage	.31	.03	.02		Zoning for long-term storage
			.17	.04	.04	Radioactive Inventory Categorization	.31	.07	.00		**Radiological Inventory Categorization**
			.17	.04	.05	Dismantling and Transfer of Contam Equip and Mat to Contain Stor	.31	.09	.00		**Removal of Contaminated Equipment/Material**
			.17	.04	.06	Isolation and Sealing of Containment Structure	.31	.05	.08		Isolation of containment structure
			.17	.04	.07	Layout of Dormancy Period Control Area	.31	.03	.01		Layout of dormancy period control area
			.17	.04	.08	Removal of Fuel Handling Equipment	.31	.06	.00		**Removal of Fuel Handling Equipment**
			.17	.04	.09	Design and Procurement of Special Tools for Dismantling	.02	.06	.00		**Procurement - Equipment & Material**
			.17	.04	.10	Dismantling Operations on Reactor Vessels and Internals	.31	.10	.00		**Dismantling Operations on Reactor Vessel & Internals**
			.17	.04	.11	Removal of Primary and Auxiliary Systems	.31	.11	.00		**Removal of Primary and Auxiliary Systems**
			.17	.04	.12	Removal of Biological Shield	.31	.12	.00		**Removal of Biological Shield**
			.17	.04	.13	Removal of Other Mat and Equip from Containment Structure	.31	.15			**Removal of Other Material and Equipment from Containment Structure**
			.17	.04	.14	Removal and Disposal of Asbestos	.31	.08	.05		Asbestos treatment/removal
			.17	.04	.15	Removal of Pool Linings	.31	.13	.02		Removal of pool linings
			.17	.04	.16	Removal of Contamination from Areas and Structures in all Bldgs	.31	.08	.04		Decontamination and release of rad zones
			.17	.04	.17	Radioactive Waste Characterization	.07	.14			**Contaminated Building / Structures Samples**
			.17	.04	.18	Radioactive Waste Characterization for Recycling	.07	.14			**Contaminated Building / Structures Samples**
			.17	.04	.19	Radioactive Waste Characterization for Final Disposal	.07	.14			**Contaminated Building / Structures Samples**
			.17	.04	.20	Personnel Training	.02	.01	.02		Personnel Training
			.17	.05	.00	**Spent Fuel Handling**					
			.17	.05	.01	Literature Review	.10	.01			**Literature Search**
			.17	.05	.02	Data Collection	.10	.02			**Data Collection**
			.17	.05	.03	Considerations on Actual and Future Dismantling	.03	.15			**Decommissioning Plan**

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
			.17	.05	.04	Decontamination Strategies/Techniques	.03	.15			**Decommissioning Plan**
			.17	.05	.05	Status Review	.02	.01	.01	.10	Prepare Reports / Participate in Reviews
			.17	.05	.06	Development of New Dismantling Equipment	.10	.04			**Design / Procure New Procedures / Equipment**
			.17	.05	.07	Development or Use of New Decontamination Techniques	.10	.04			**Design / Procure New Procedures / Equipment**
			.17	.05	.08	Dev of Adapted Measurement Devises and Calc Techniques	.10	.04			**Design / Procure New Procedures / Equipment**
			.17	.05	.09	Development of Adapted Waste Treatment and Disposal Tech	.10	.04			**Design / Procure New Procedures / Equipment**
			.17	.05	.10	Research and Development on Remotely Operated Systems	.10	.04			**Design / Procure New Procedures / Equipment**
			.17	.05	.11	Simulation of Complicated Work on Model	.10	.10			**Simulation / Modeling**
			.17	.05	.12	Robotics and Manipulators (R&D)	.10	.04			**Design / Procure New Procedures / Equipment**
			.17	.06	.00	**Hot Cell Cleanup**					
			.17	.06	.01	Transfer of Fuel from Temp Storage to Intermediate Storage	.32	.09	.02		Transport to Storage Facility
			.17	.06	.02	Intermediate Fuel Storage	.12	.05	.04		Intermediate Fuel Storage
			.17	.06	.03	Dismantling/Disposal of Temporary Fuel Storage Facility	.31	.18	.00		**Decontaminating/Dismantling/Disposal of Temporary Fuel Storage Facility**
			.17	.06	.04	Transfer Fuel from Intermediate Storage to Reprocessing	.32	.09	.01		Transport to Treatment Plant
			.17	.06	.05	Reprocessing Costs	.31	.20			**Reprocessing Costs**
			.17	.06	.06	Transfer and Disposal of Wastes from Reprocessing	.32	.09	.03		Transport to Disposal Facility
			.17	.06	.07	Transfer and Conditioning of Spent Fuel	.32	.01	.02		Stage & Store
			.17	.06	.08	Transfer and Disposal of Spent Fuel	.32	.09	.03		Transport to Disposal Facility
			.17	.07	.00	**Hot Cell Cleanup**	.31	.14	.00		**Dismantling of In-Cell Equipment**
			.17	.07	.01	Radioactivity Survey	.07	.03			**Site Contaminant Surveys / Radiation Monitoring**
			.17	.07	.02	Decon of Areas and Equip in Cell to Facilitate Dismantling	.31	.08	.14		Decontamination of areas and equipment in hot cells
			.17	.07	.03	Decon of Areas and Equip in Cell to Reduce Contam Levels	.31	.08	.14		Decontamination of areas and equipment in hot cells
			.17	.07	.04	Decontamination of Equipment for Transfer or Disposal	.31	.08	.14		Decontamination of areas and equipment in hot cells
			.17	.07	.05	Cell Equipment Modification	.31	.04	.00		**Hot Cell Equipment Modification**
			.17	.07	.06	Dismantling of Primary and Auxiliary Services to Cell	.31	.14			**Dismantling of In-Cell Equipment**
			.17	.07	.07	Dismantling of In-Cell Equipment	.31	.14			**Dismantling of In-Cell Equipment**
			.17	.07	.08	Transfer of Material and Equipment to Airlock Services	.32	.01	.02		Stage & Store
			.17	.07	.09	Packaging and Preparation of Cell Waste in Airlock	.32	.01	.02		Stage & Store
			.17	.07	.10	Transfer of Material from Airlock to Shipping Dock	.32	.01	.02		Stage & Store
			.17	.07	.11	Cell Window Maintenance and Cleaning	.31	.08	.14		Decontamination of areas and equipment in hot cells
			.17	.07	.12	Cell Window Replacement/Refurbishment	.31	.05	.04		Sealing/securing of potential pathways to the environment
			.18	.00		**DISPOSAL (OTHER THAN COMMERCIAL)**	.13	.00			**DISPOSAL FACILITY**
			.18	.01		**Landfill/Burial Ground/Trench/Pits**	.13	.04			**Landfill / Burial Ground / Trench / Pits**
			.18	.02		**Above-Ground Vault**	.13	.05			**Above Ground Vault**
			.18	.03		**Underground Vault**	.13	.06			**Underground Vault**
			.18	.04		**Underground Mine/Shaft**	.13	.07			**Underground Mine / Shaft**
			.18	.05		**Tanks**	.13	.08			**Tanks**
			.18	.06		**Pads (Tumulus/Retrievable Storage/Other)**	.13	.09			**Pads (Tumulus / Retrievable Storage / Other)**
			.18	.07		**Storage Bldgs/Protect Cover Struct/Other Bldgs and Struct**	.12	.02	.02		Waste Storage Structure/Building
			.18	.08		**Cribs**	.12	.02	.01		Waste Storage Area (Pads & Cribs)
			.18	.09		**Deep Well Injection**	.13	.15			**Deep Well Injection**
			.18	.10		**Incinerator**	.28	.02			**Incineration**
			.18	.11		**Construction of Permanent Disposal Facility**	.13	.11			**Engineered Disposal**
			.18	.20		**Container Handling**	.13	.02	.03		Container Handling
			.18	.21		**Transportation to Storage/Disposal Facility**	.11	.04			**Treatment Train Facility Construction (e.g., Rain Covers, Foundation, Utilities)**
			.18	.22		**Disposal Fees and Taxes**	.13	.18			**Disposal Fees and Taxes**
			.18	.23		**Mixed Waste Storage Fees and Taxes**	.12	.07			**Mixed Waste Storage Fees & Taxes**
			.19	.00		**DISPOSAL (COMMERCIAL)**	.33	.00			**DISPOSAL - COMMERCIAL**
			.19	.20		**Container Handling**	.33	.01			**Container Handling**
			.19	.21		**Transportation to Storage/Disposal Facility**	.33	.02			**Transport Waste to Commercial Disposal Facility**
			.19	.22		**Disposal Fees and Taxes**	.33	.03			**Tipping Charges & Taxes**
			.19	.23		**Mixed Waste Storage Fees and Taxes**	.33	.03			**Tipping Charges & Taxes**
			.20	.00		**SITE RESTORATION**	.05	.00			**SITE WORK**
			.20	.01		**Earthwork**	.05	.05			**Excavation/Earthwork**
			.20	.02		**Permanent Markers**	.02	.04	.03		Permanent Markers
			.20	.03		**Permanent Features**	.02	.04	.04		Permanent Features

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
			.20	.04		Revegetation and Planting	.05	.02			Cleanup / Landscaping / Revegetation
			.20	.05		Removal of Barriers	.05	.36	.01		Removal of Temporary Facilities
			.21	.00		DEMOBILIZATION	.11	.13	.00		Demobilization
			.21	.01		Removal of Temporary Facilities	.11	.13	.01		Removal of Temporary Facilities
			.21	.02		Removal of Temporary Utilities	.11	.13	.02		Removal of Temporary Utilities
			.21	.03		Final Decontamination	.11	.13	.03		Final Decontamination
			.21	.04		Demobilization of Construction Equipment and Facilities	.11	.13	.04		Demobilization Construction Equipment and Facilities
			.21	.05		Demobilization of Personnel	.11	.13	.05		Demobilization of Personnel
			.21	.06		Submittals	.03	.12			Submittals / Implementation Plans
			.21	.06		Construction Plant Takedown	.11	.13	.06		Construction Plant Takedown
			.22	.00		GENERAL REQUIREMENTS (Optional Breakout)	.01	.00			PROGRAM MANAGEMENT, SUPPORT & INFRASTRUCTURE (OPTIONAL)
			.22	.01		Supervision and Management	.01	.02	.05		Engineering & Supervision
			.22	.02		Administration Job Office	.01	.02	.03		Administrative Support
			.22	.03		Warehouse, Materials Handling, and Purchasing	.01	.02	.04		Procurement - Equipment & Material
			.22	.03		Warehouse, Materials Handling, and Purchasing	.12	.02	.00		Conventional Storage/Warehouses
			.22	.04		Engineering, Surveying, and Quality Control	.01	.02	.06		Surveying and Quality Control
			.22	.05		Equipment Maintenance and Motor Pool	.01	.03	.10		Equipment Maintenance and Motor Pool
			.22	.06		First Aid, Fire Protection, Traffic Control, and Security	.01	.03	.11		First Aid, Fire Protection, Traffic Control, and Security
			.22	.07		Health & Safety	.01	.02	.08		Medical / Health & Safety
			.22	.08		Temporary Construction Facilities-Ownership	.01	.03	.01		Cost of Ownership
			.22	.09		Temporary Construction Facilities-Operation	.05	.01	.03		Setup / Construct Temporary Facilities
			.22	.10		Project Utilities	.01	.03	.08		Project Utilities
			.22	.11		Miscellaneous Project Expenses	.01	.03	.09		Miscellaneous Project Expenses
			.22	.12		Insurance, Interest, and Fees	.01	.03	.02		Insurance, Interest, and Fees
			.33	.00		Engineering During Construction (EDC)	.02	.07	.00		A/E Support During Remedial Action
			.33	.00		Supervision & Administration (S&A) Construction Management	.01	.04	.00		Construction Management
			.33	.00		Supervision & Administration (S&A) Construction Management	.02	.08			Construction Management
							.01	.00			(Installation / Complex-Wide Activities)
							.01	.01	.00		Program Management
							.01	.01	.01		Program Planning
							.01	.01	.02		Compliance Management
							.01	.01	.03		Pollution Prevention Management
							.01	.01	.04		Conservation / Environmental Restoration Management
							.01	.02	.00		Program Support
							.01	.02	.01		Training / Certification
							.01	.02	.02		Public Affairs / Community Relations
							.01	.02	.07		Legal Support / Regulatory Interaction
							.01	.02	.09		Consulting Costs
							.01	.03	.00		Program Infrastructure
							.01	.03	.03		Cost of Money
							.01	.03	.04		General & Administrative
							.01	.03	.05		Award Fee
							.01	.03	.06		Fixed Fee
							.01	.03	.07		Support Services
							.01	.04	.01		Site Work
							.01	.04	.02		Treatment Plant/Facility
							.01	.04	.03		Storage Facility
							.01	.04	.04		Disposal Facility
							.01	.04	.05		Ordnance & Explosives Removal & Destruction
							.01	.04	.06		Drums / Tanks / Structures & Misc Demolition & Removal
							.01	.04	.07		Air Pollution / Gas Collection or Control
							.01	.04	.08		Surface Water / Sediments Containment, Collection, or Control
							.01	.04	.09		Groundwater Containment, Collection, or Control
							.01	.04	.10		Solids / Soils Containment (e.g., Capping) Collection or Control
							.01	.04	.11		Liquid Waste / Sludge (e.g., UST/AST) Containment, Collection, or Control
							.01	.04	.12		In Situ Biological Treatment

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd	3rd	4th	5th	Environmental Management
2nd	3rd	4th	2nd	3rd	4th		Lvl	Lvl	Lvl	Lvl	(Environmental Restoration & Waste Management)
							.01	**.04**	.13		Ex Situ Biological Treatment
							.01	**.04**	.14		In Situ Chemical Treatment
							.01	**.04**	.15		Ex Situ Chemical Treatment
							.01	**.04**	.16		In Situ Physical Treatment
							.01	**.04**	.17		Ex Situ Physical Treatment
							.01	**.04**	.18		In Situ Thermal Treatment
							.01	**.04**	.19		Ex Situ Thermal Treatment
							.01	**.04**	.20		In Situ Stabilization / Fixation / Encapsulation
							.01	**.04**	.21		Ex Situ Stabilization / Fixation / Encapsulation
							.01	**.04**	.22		Facility Decommissioning & Dismantlement
							.01	**.05**	.00		**Government - Construction Management**
							.01	**.05**	.01		Site Work
							.01	**.05**	.02		Treatment Plant / Facility
							.01	**.05**	.03		Storage Facility
							.01	**.05**	.04		Disposal Facility
							.01	**.05**	.05		Ordnance & Explosives Removal & Destruction
							.01	**.05**	.06		Drums / Tanks / Structures & Misc Demolition & Removal
							.01	**.05**	.07		Air Pollution/Gas Collection or Control
							.01	**.05**	.08		Surface Water / Sediments Containment, Collection, or Control
							.01	**.05**	.09		Groundwater Containment, Collection, or Control
							.01	**.05**	.10		Solids / Soils Containment (e.g., Capping) Collection or Control
							.01	**.05**	.11		Liquid Waste/Sludge (e.g., UST/AST) Containment, Collection, or Control
							.01	**.05**	.12		In Situ Biological Treatment
							.01	**.05**	.13		Ex Situ Biological Treatment
							.01	**.05**	.14		In Situ Chemical Treatment
							.01	**.05**	.15		Ex Situ Chemical Treatment
							.01	**.05**	.16		In Situ Physical Treatment
							.01	**.05**	.17		Ex Situ Physical Treatment
							.01	**.05**	.18		In Situ Thermal Treatment
							.01	**.05**	.19		Ex Situ Thermal Treatment
							.01	**.05**	.20		In Situ Stabilization/Fixation/Encapsulation
							.01	**.05**	.21		Ex Situ Stabilization/Fixation/Encapsulation
							.01	**.05**	.22		Facility Decommissioning & Dismantlement
							.02	**.00**			**PROJECT MANAGEMENT & SUPPORT**
							.02	**.00**			(Operable Unit / Solid Waste Management Unit)
							.02	**.01**	.01	.11	Proposed Plan Support
							.02	**.01**	.01	.12	Responsiveness Summary Report
							.02	**.01**	.01	.13	Work Assignment Closeout
							.02	**.01**	.03	.02	Perform Subcontract Management
							.02	**.01**	.05	.00	Negotiation Support
							.02	**.01**	.05	.01	Attend Negotiation Sessions & Meetings
							.02	**.01**	.05	.02	Review of PRP Documents
							.02	**.01**	.05	.03	Provide Technical Memorandum
							.02	**.01**	.06	.01	Coordinate with Administrative Record Coordinator
							.02	**.01**	.06	.02	Provide Assistance in Document Compilation
							.02	**.01**	.06	.03	Prepare Draft Administrative Record Index
							.02	**.01**	.06	.04	Prepare Administrative Record Index
							.02	**.01**	.06	.05	Coordinate Duplication of Administrative Index
							.02	**.01**	.06	.06	Assemble Administrative Record & Index
							.02	**.03**	.06		Update Regulatory Permits (e.g., RCRA Part B Permit)
							.02	**.05**	.04		Provide Technical Assistance - Responsiveness Summary
							.02	**.05**	.05		Provide Technical Assistance - Proposed Plan & ROD
							.02	**.05**	.06		Prepare Feasibility Addendum
							.02	**.09**			**Independent Contractor Verification of Cleanup or Reuse**
							.03	**.16**			**Post RA/D&D Monitoring Plan**
							.04	**.03**	.02		Dose-Response Assessment

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
							.04	**.04**	.01	.00	Compose Draft Remedial Investigation Reports
							.04	**.04**	.01	.01	Human Health Risk Assessment
							.04	**.04**	.01	.02	Ecological Risk Assessment
							.04	**.05**	.02	.01	Field Investigation & Technical Approach
							.04	**.05**	.02	.02	Chemical Analysis & Analytical Methods
							.04	**.05**	.02	.03	Field Methodologies
							.04	**.05**	.03	.01	Geology
							.04	**.05**	.03	.02	Hydrology
							.04	**.05**	.03	.03	Meteorology
							.04	**.05**	.03	.04	Demographics & Land Use
							.04	**.05**	.03	.05	Ecological Assessment
							.04	**.05**	.04	.01	Contaminant Sources
							.04	**.05**	.04	.02	Contaminant Distribution & Trends
							.04	**.05**	.05	.01	Contaminant Characteristics
							.04	**.05**	.05	.02	Transport Process
							.04	**.05**	.05	.02	Contaminant Migration Trends
							.04	**.06**	.05		Develop remedial Alternatives in Accordance with NCP
							.04	**.12**	.00		**Decontamination/Dismantlement Project Design**
							.04	**.12**	.01	.00	Preliminary Design
							.04	**.12**	.01	.01	Recommend Project Delivery Strategy and Scheduling
							.04	**.12**	.01	.02	Prepare Preliminary Construction Schedule
							.04	**.12**	.01	.03	Prepare Specifications Outline
							.04	**.12**	.01	.04	Prepare Preliminary Drawings
							.04	**.12**	.01	.05	Prepare Basis of Design Report / Design Analysis
							.04	**.12**	.01	.06	Prepare Preliminary Cost Estimate
							.04	**.12**	.02	.00	Intermediate Design
							.04	**.12**	.02	.01	Update Construction Schedule
							.04	**.12**	.02	.02	Prepare Preliminary Specifications
							.04	**.12**	.02	.03	Prepare Intermediate Drawings
							.04	**.12**	.02	.04	Prepare Basis of Design Report / Design Analysis
							.04	**.12**	.02	.05	Prepare Revised Cost Estimate
							.04	**.12**	.02	.06	Participate in Intermediate Design Review / Briefing
							.04	**.12**	.03	.00	Pre-Final / Final Design
							.04	**.12**	.03	.01	Prepare Pre-Final Design Specifications
							.04	**.12**	.03	.02	Prepare Pre-Final Drawings
							.04	**.12**	.03	.03	Prepare Basis of Design Report / Design Analysis
							.04	**.12**	.03	.04	Prepare Revised Cost estimate
							.04	**.12**	.03	.05	Participate in Pre-Final / Final Design Review
							.04	**.12**	.03	.06	Prepare 100% Design Submittal
							.04	**.13**	.00		**Facility Design**
							.04	**.13**	.01	.00	Preliminary Design
							.04	**.13**	.01	.01	Recommend Project Delivery Strategy and Scheduling
							.04	**.13**	.01	.02	Prepare Preliminary Construction Schedule
							.04	**.13**	.01	.03	Prepare Specifications Outline
							.04	**.13**	.01	.04	Prepare Preliminary Drawings
							.04	**.13**	.01	.05	Prepare Basis of Design Report / Design Analysis
							.04	**.13**	.01	.06	Prepare Preliminary Cost Estimate
							.04	**.13**	.02	.00	Intermediate Design
							.04	**.13**	.02	.01	Update Construction Schedule
							.04	**.13**	.02	.02	Prepare Preliminary Specifications
							.04	**.13**	.02	.03	Prepare Intermediate Drawings
							.04	**.13**	.02	.04	Prepare Basis of Design Report / Design Analysis
							.04	**.13**	.02	.05	Prepare Revised Cost Estimate
							.04	**.13**	.02	.06	Participate in Intermediate Design Review / Briefing
							.04	**.13**	.03	.00	Pre-Final / Final Design
							.04	**.13**	.03	.01	Prepare Pre-Final Design Specifications

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
							.04	**.13**	.03	.02	Prepare Pre-Final Drawings
							.04	**.13**	.03	.03	Prepare Basis of Design Report / Design Analysis
							.04	**.13**	.03	.04	Prepare Revised Cost estimate
							.04	**.13**	.03	.05	Participate in Pre-Final / Final Design Review
							.04	**.13**	.03	.06	Prepare 100% Design Submittal
							.05	**.01**	.01		Mobilization of Construction Equipment & Facilities
							.05	**.01**	.02		Mobilization of Personnel
							.05	**.01**	.04		Construct Temporary Utilities
							.05	**.01**	.05		Construct Plant Erection
							.05	**.06**			**Load & Haul**
							.05	**.09**			**Arterial Roads / Divided Highways**
							.05	**.10**			**Restriping Roadways / Parking Lots**
							.05	**.11**			**Resurfacing Roadways / Parking Lots**
							.05	**.12**			**Railroad Tracks & Crossings**
							.05	**.13**			**Bridges**
							.05	**.16**			**Retaining Wall**
							.05	**.18**			**Sprinkler System**
							.05	**.23**			**Heating / Cooling Distribution System**
							.05	**.25**			**Treatment Plants / Lift Stations**
							.05	**.27**			**Water Storage Tanks**
							.05	**.30**			**Lighting**
							.05	**.34**			**Restoration of Buildings after D&D**
							.05	**.35**			**Constructed wetlands**
							.05	**.36**	.00		**Demobilization**
							.05	**.36**	.02		Removal of Temporary Utilities
							.05	**.36**	.03		Final Decontamination
							.05	**.36**	.04		Demobilization Construction Equipment and Facilities
							.05	**.36**	.05		Demobilization of Personnel
							.05	**.36**	.06		Construction Plant Takedown
							.06	**.00**			**PRE-REMEDIAL SURVEILLANCE & MAINTENANCE**
							.06	**.01**	.00		**Facility Transition**
							.06	**.01**	.01		Develop End Point Criteria
							.06	**.01**	.02		End Point Criteria Verification
							.06	**.02**	.00		**Outdoor Surveillance & Maintenance**
							.06	**.02**	.01		Surveillance and Inspections
							.06	**.02**	.03		Maintenance and Revegetation
							.06	**.02**	.04		Corrective Actions
							.06	**.02**	.05		Herbicide & Pesticide Applications
							.06	**.03**	.00		**Indoor Surveillance & Maintenance**
							.06	**.03**	.01		Surveillance & Inspections
							.06	**.03**	.02		Facility/Building Maintenance
							.06	**.03**	.03		Facility Risk Assessment
							.06	**.03**	.04		Major Facility Repairs
							.06	**.03**	.05		Facility System Replacement
							.06	**.03**	.06		ACM Encapsulation
							.07	**.04**	.00		**Hydrogeological Investigations - Groundwater**
							.07	**.06**	.10		Remote Sensor Survey
							.07	**.09**	.01	.01	Accomplish Mobilization
							.07	**.09**	.01	.02	Perform Well Development
							.07	**.09**	.01	.03	Conduct Down Hole Geophysics
							.07	**.09**	.01	.04	Install Monitoring Wells
							.07	**.09**	.01	.05	Install Test Wells
							.07	**.09**	.01	.06	Install Gas Wells
							.07	**.09**	.03		Well Refurbishment
							.07	**.12**	.00		**Ecological Sampling**
							.07	**.12**	.01		Biota Sampling / Population Studies

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
							.08	**.19**			**Real Time - Air / Gas Sample Analysis**
							.08	**.20**			**Real Time - Groundwater Sample Analysis**
							.08	**.21**			**Real Time - Surface Water Sample Analysis**
							.08	**.22**			**Real Time - Soil / Sediment Sample Analysis**
							.08	**.23**			**Real Time - Gas Waste Sample Analysis**
							.08	**.24**			**Real Time - Liquid Waste Sample Analysis**
							.08	**.25**			**Real Time - Solid Waste Sample Analysis**
							.09	**.01**	.06		Other Types of Media Sampling and Screening
							.09	**.09**	.00		**Modeling**
							.09	**.09**	.02		Water Quality
							.09	**.09**	.03		Groundwater
							.09	**.09**	.04		Air
							.10	**.08**			**Test Special Tools / Equipment**
							.10	**.09**			**Design, Procure, Test New Procedures**
							.11	**.00**			**TREATMENT PLANT/FACILITY**
							.11	**.00**			**(Construction / Operations are exclusive of Treatment Specific Elements included with the**
							.11	**.02**			**Sheds & Other Supporting Facilities**
							.11	**.03**			**Simple Remedial Treatment Facilities (e.g., Equipment Slabs, Utilities)**
							.11	**.04**			**Treatment Train Facility Construction (e.g., Rain Covers, Foundation, Utilities)**
							.11	**.05**			**Treatment Train - Operations**
							.11	**.06**			**Full Scale Waste Management Plant/Facility - Construction**
							.11	**.07**	.00		**Waste Management Low/Moderate Hazard Treatment Front-End Construction/Operations**
							.11	**.07**	.01		Receiving & Inspection
							.11	**.07**	.02		Assay
							.11	**.07**	.03		Container Handling
							.11	**.07**	.04		Waste Stream Sort/Separation - Contact Handled
							.11	**.07**	.05		Separation/Handling Special Materials/Wastes
							.11	**.08**	.00		**Waste Management High Hazard/Remote Treatment Front-End Construction/Operations**
							.11	**.08**	.01		Receiving & Inspection
							.11	**.08**	.02		Assay
							.11	**.08**	.03		Waste Stream Sort/Separation - Remote Handled
							.11	**.08**	.04		Remote - Container Handling
							.11	**.08**	.05		Separation/Handling Special Materials/Wastes
							.11	**.09**			**Waste Management Low Hazard Functional Area**
							.11	**.09**			(e.g., Hazardous/Toxic)
							.11	**.10**			**Waste Management Moderate Hazard Functional Area**
							.11	**.10**			(e.g., Hazardous/Toxic, LLW & MLLW)
							.11	**.11**			**Waste Management High Hazard Functional Area**
							.11	**.11**			(e.g., ALLW, MALLW, TRU, Spent Fuel, & CWM)
							.11	**.12**			**Waste Management Remote Functional Area**
							.11	**.12**			(e.g., ALLW, MALLW, TRU, Spent Fuel, & CWM)
							.12	**.00**			**STORAGE FACILITY**
							.12	**.01**	.00		**Mobilization**
							.12	**.01**	.01		Mobilization of Construction Equipment & Facilities
							.12	**.01**	.02		Mobilization of Personnel
							.12	**.01**	.03		Setup / Construct Temporary Facilities
							.12	**.01**	.04		Construct Temporary Utilities
							.12	**.01**	.05		Construct Plant Erection
							.12	**.03**	.00		**Storage Facility Front-End - Low / Moderate Hazard**
							.12	**.03**	.01		Receiving & Inspection
							.12	**.03**	.02		Assay
							.12	**.03**	.03		Container Handling
							.12	**.03**	.04		Waste Stream Sort/Separation - Contact Handled
							.12	**.03**	.05		Separation/Handling Special Materials/Wastes
							.12	**.04**	.00		**Storage Facility Front-End - High / Remote Hazard**
							.12	**.04**	.01		Receiving & Inspection

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
							.12	.04	.02		Assay
							.12	.04	.03		Waste Stream Sort/Separation - Remote Handled
							.12	.04	.04		Remote - Container Handling
							.12	.04	.05		Separation/Handling Special Materials/Wastes
							.12	.05	.00		**Contact Handled Storage**
							.12	.05	.01		Low Hazardous Storage
							.12	.05	.02		Vault Storage
							.12	.05	.03		Silo Storage
							.12	.06	.00		**Remote Handled Storage**
							.12	.06	.01		Vault Storage
							.12	.06	.02		Silo Storage
							.12	.06	.03		Pool Storage
							.12	.08	.00		**Demobilization**
							.12	.08	.01		Removal of Temporary Facilities
							.12	.08	.02		Removal of Temporary Utilities
							.12	.08	.03		Final Decontamination
							.12	.08	.04		Demobilization Construction Equipment and Facilities
							.12	.08	.05		Demobilization of Personnel
							.12	.08	.06		Construction Plant Takedown
							.13	.01	.00		**Mobilization**
							.13	.01	.01		Mobilization of Construction Equipment & Facilities
							.13	.01	.02		Mobilization of Personnel
							.13	.01	.03		Setup / Construct Temporary Facilities
							.13	.01	.04		Construct Temporary Utilities
							.13	.01	.05		Construct Plant Erection
							.13	.02	.00		**Disposal Facility Front-End - Low / Moderate Hazard**
							.13	.02	.01		Receiving & Inspection
							.13	.02	.02		Assay
							.13	.02	.04		Waste Stream Sort/Separation - Contact Handled
							.13	.02	.05		Separation/Handling Special Materials/Wastes
							.13	.03	.00		**Disposal Facility Front-End - High / Remote Hazard**
							.13	.03	.01		Receiving & Inspection
							.13	.03	.02		Assay
							.13	.03	.03		Waste Stream Sort/Separation - Remote Handled
							.13	.03	.04		Remote - Container Handling
							.13	.03	.05		Separation/Handling Special Materials/Wastes
							.13	.10			**Confined Disposal Facilities (CDFs)**
							.13	.12			**Intermediate Depth Disposal**
							.13	.13			**Geologic Disposal**
							.13	.14			**Shallow Land Disposal**
							.13	.16			**Silo Disposal**
							.13	.17			**Bore-Hole Disposal**
							.13	.20	.00		**Demobilization**
							.13	.20	.01		Removal of Temporary Facilities
							.13	.20	.02		Removal of Temporary Utilities
							.13	.20	.03		Final Decontamination
							.13	.20	.04		Demobilization Construction Equipment and Facilities
							.13	.20	.05		Demobilization of Personnel
							.13	.20	.06		Construction Plant Takedown
							.14	.00			**(CWM is included in Waste Management WBS .11 & Technologies WBS .20-.30)**
							.15	.06			**Well Abandonment**
							.18	.02			**Injection Wells**
							.19	.05			**RCRA C-Cap**
							.19	.06			**Arid Climate Engineered Cap**
							.19	.07			**Bottom Barriers**
							.21	.01			**Biological Barrier**

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
							.21	.04			Cometabolic Biotreatment
							.21	.06			Enhanced Bioremediation
							.21	.07			Land Treatment
							.21	.09			Phytoremediation
							.22	.02			Biofilter
							.22	.04			Cometabolic Biotreatment
							.23	.01			Chemical Barriers
							.23	.02			Chemical Extraction
							.23	.03			Oxygen Release Compounds
							.24	.00			EX SITU CHEMICAL TREATMENT
							.24	.06			Hydrogen reduction
							.24	.08			Neutralization
							.24	.10			Oxygen Release Compounds
							.25	.01			Coatings
							.25	.02			Circulating Wells / In-Well Air Stripping
							.25	.04			Condensation
							.25	.05			Cryogenics
							.25	.06			Fracturing (Hydrofracturing)
							.25	.07			Lasagna Process
							.25	.08			Laser Cutting
							.25	.09			Laser Decontamination
							.25	.10			Passive Treatment Wall/Reactive Barriers
							.25	.11			Skimming
							.25	.12			Soil Flushing
							.25	.14			Steam Extraction
							.25	.15			Vacuuming/Blasting
							.26	.08			Condensation
							.26	.09			Decant / Phase Separation
							.26	.12			E-Beam
							.26	.13			Electrochemical oxidation
							.26	.14			Electrokinetics
							.26	.20			Freeze Crystallization
							.26	.24			High Pressure Aqueous Destruction
							.26	.26			Magnetic Separation
							.26	.33			Skimming
							.26	.36			Solids Dewatering/Drying
							.26	.37			Sprinkler Irrigation
							.26	.39			Surfactant Enhanced Recovery
							.26	.40			Synthetic Resin Adsorption
							.27	.01			Thermal Blanket
							.27	.02			Six Phase Extraction
							.27	.03			In Situ Heating - Vacuum Extraction
							.27	.06			In Situ Vitrification (SVOC Destruction)
							.27	.07			Low Temperature Thermal Desorption
							.28	.01			High Temperature Thermal Desorption
							.28	.05			Open Burning / Open Detonation
							.28	.06			Plasma
							.28	.07			Pyrolysis
							.28	.12			Thermally Enhanced Vapor Extraction
							.29	.02			Inorganic / Asphalt-Based Encapsulation
							.30	.01			Calcination
							.30	.02			Inorganic / Asphalt-Base Encapsulation
							.30	.03			Organic based encapsulation
							.30	.05			Retort / Amalgamation
							.31	.01	.02		Shutdown of unnecessary equipment
							.31	.01	.03		Compilation/verification of as-built drawings

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
							.31	.01	.04		General housekeeping
							.31	.01			**Nuclear Facility Shutdown and Inspection**
							.31	.02	.00		**Deactivation**
							.31	.02	.03		Removal of system fluids
							.31	.02	.04		Removal of spent resins
							.31	.02	.05		Modification of access and changing facilities
							.31	.02	.07		Installation of viewing devices
							.31	.02	.09		Installation of continuous air monitoring system
							.31	.02	.10		Removal of nuclear materials
							.31	.02	.11		Removal of emergency response equipment, tools, and supplies
							.31	.02	.12		Asset recovery
							.31	.02	.13		Removal of all unattached hazardous material
							.31	.02	.14		Removal of all unattached ordnance
							.31	.02	.15		Removal of all unattached radiological materials
							.31	.03	.00		**Preparation for Dormancy**
							.31	.03	.03		Removal of inventory not suitable for long-term storage
							.31	.04	.01		Isolation of process, utility, and instrument air line penetrations
							.31	.04	.02		Isolation of electrical power
							.31	.04	.03		Isolation of fire suppression nozzles and temperature detectors
							.31	.04	.04		Isolation of exhaust ventilation system
							.31	.04	.05		Isolation of gloveports and bagports
							.31	.04	.06		Isolation of criticality drains
							.31	.04	.07		Isolation of all other seals and lines
							.31	.05	.00		**Site Reconfiguration, Isolating and Securing Structure**
							.31	.05	.01		Isolation of tanks
							.31	.05	.02		Isolation of lines entering and exiting the building
							.31	.05	.03		Isolation of utilities to the building
							.31	.05	.05		Securing/isolation of building from both personnel and animals/insects
							.31	.05	.06		Securing of windows and doors
							.31	.05	.07		Repairing of roof
							.31	.05	.09		Removal of obstacles to dismantlement and decommissioning
							.31	.05	.10		Site boundary reconfiguration
							.31	.06	.01		Removal of cranes
							.31	.06	.02		Removal of fuel positioning systems
							.31	.07	.02		Calculations to evaluate inventory
							.31	.08	.01		Decontamination of systems for dose reduction/reduction of controlled area
							.31	.08	.02		Washing of sump areas to remove excess residual chemicals
							.31	.08	.03		Protective clothing/breathing apparatuses
							.31	.08	.06		Surface decontamination of floors
							.31	.08	.08		Surface decontamination of equipment/dismantled piping
							.31	.08	.09		Surface decontamination of piping and tank internals
							.31	.08	.10		Decontamination of reactor vessel & internals
							.31	.08	.11		Decontamination of primary and auxiliary systems
							.31	.08	.12		Decontamination of biological shield
							.31	.08	.13		Decontamination of linings
							.31	.09	.01		Cutting, sizing, and removal of equipment
							.31	.09	.02		Cutting, sizing, and removal of instrument tubing
							.31	.09	.03		Cutting, sizing, and removal of piping
							.31	.09	.04		Cutting, sizing, and removal of tanks
							.31	.09	.05		Cutting, sizing, and removal of structures/stacks
							.31	.10	.01		Cutting, sizing, and removal of flat stock and pressure vessels
							.31	.10	.02		Cutting, sizing, and removal of internal and attached piping
							.31	.10	.03		Cutting, sizing, and removal of control rods
							.31	.10	.04		Cutting, sizing, and removal of assemblies
							.31	.10	.05		Cutting, sizing, and removal of instrumentation
							.31	.10	.06		Cutting, sizing, and removal of other internals

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
							.31	.11	.01		Cutting, sizing, and removal of piping
							.31	.11	.02		Removal of pumps
							.31	.11	.03		Cutting, sizing, and removal of containment other than biological shields
							.31	.11	.04		Cutting, sizing, and removal of primary cooling circuits
							.31	.11	.05		Removal of subsurface materials
							.31	.11	.06		Cutting, sizing, and removal of secondary cooling circuits
							.31	.11	.07		Cutting, sizing, and removal of other primary or auxiliary systems
							.31	.12	.01		Cutting, sizing, and removal of reinforcement materials
							.31	.12	.02		Cutting, sizing, and removal of biological shield/concrete
							.31	.13	.01		Drainage of spent fuel pool
							.31	.14	.01		Cutting, sizing, and removal of lead glass windows
							.31	.14	.02		Cutting, sizing, and removal of internal remote operated cranes
							.31	.14	.03		Cutting, sizing, and removal of manipulators
							.31	.14	.04		Cutting, sizing, and removal of gloveports and bagports
							.31	.14	.05		Cutting, sizing, and removal of liquid and gas piping
							.31	.14	.06		Cutting, sizing, and removal of ventilation systems
							.31	.14	.07		Cutting, sizing, and removal of lighting and electrical systems
							.31	.14	.08		Cutting, sizing, and removal of fire suppression systems
							.31	.16	.00		**Facility (Controlled Area) Hardening, Isolation or Entombment**
							.31	.16	.01		Zoning for long-term storage
							.31	.17	.00		**Removal of All Other Facilities, or Entire Contaminated Facility**
							.31	.17	.01		Demolition using heavy equipment
							.31	.17	.02		Demolition using explosive charges
							.31	.17	.03		Demolition using other tools
							.31	.18	.01		Demolition using heavy equipment
							.31	.18	.02		Demolition using explosive charges
							.31	.18	.03		Demolition using other tools
							.31	.19	.00		**Decontaminating/Dismantling/Disposal of Intermediate Fuel Storage Facility**
							.31	.19	.01		Demolition using heavy equipment
							.31	.19	.02		Demolition using explosive charges
							.31	.19	.03		Demolition using other tools
							.32	.00			**MATERIAL HANDLING/TRANSPORTATION**
							.32	.01	.00		**Waste Stream Handling / Packaging**
							.32	.01	.01		Receiving & Inspection
							.32	.01	.03		Waste Conditioning
							.32	.01	.04		Contact Handled Packaging/Overpacking
							.32	.01	.05		Remote Handled Packaging/Overpacking
							.32	.01	.06		Washing
							.32	.02	.00		**Transportation Device / Equipment**
							.32	.02	.01		Transportation Device/Equipment for On-Site Transfers
							.32	.02	.02		Transportation Device/Equipment for Off-Site Transportation
							.32	.04	.00		**Removed Drums / Tanks & Misc Transportation**
							.32	.04	.01		Transport to Treatment Plant
							.32	.04	.02		Transport to Storage Facility
							.32	.04	.03		Transport to Disposal Facility
							.32	.05	.00		**Surface Water (Free Product) & Sediments Transportation**
							.32	.05	.02		Transport to Storage Facility
							.32	.05	.03		Transport to Disposal Facility
							.32	.07	.00		**Liquid Waste / Sludge (e.g., UST/AST) Transportation**
							.32	.07	.02		Transport to Storage Facility
							.32	.07	.03		Transport to Disposal Facility
							.32	.08	.00		**Soil / Solid Waste Transportation**
							.32	.08	.02		Transport to Storage Facility
							.32	.08	.03		Transport to Disposal Facility
							.32	.09	.00		**D&D Facility Contaminated Equipment / Material Transportation**
							.32	.10	.00		**Certification & Shipping**

32			33 & 34			STUDIES & DESIGN WORK BREAKDOWN STRUCTURE	2nd Lvl	3rd Lvl	4th Lvl	5th Lvl	Environmental Management (Environmental Restoration & Waste Management)
2nd	3rd	4th	2nd	3rd	4th						
							.32	**.10**	.01		Special Permits, Packaging and Transport Requirements
							.32	**.10**	.02		Load and Haul Prepared Waste
							.32	**.10**	.03		Load and Haul Prepared Special Materials